Indian Central Cotton Committee Technological Laboratory.

The Results of Spinning Tests on Standard Indian Cottons: Prefaced by a Descriptive Note on the Conduct of Spinning Tests in the Technological Laboratory.

I. General.

The tests on Standard Indian Cottons have been undertaken with a number of objects in view.—

(1) The primary reason for making these tests was to obtain as full information as possible about the Standard Indian Cottons, both as to their fibre characters and their spinning capacities.

(2) Another important reason for making these tests was the necessity for having a series of standards by which to judge other cottons. This is particularly desirable for new cottons produced by cotton breeders, and as no spinning test standards are generally available it has been necessary for the Technological Laboratory to prepare its own standards.

(3) As it is a matter of very considerable importance as to what is the minimum weight of cotton on which a satisfactory spinning test can be carried out, the opportunity has been taken in the course of these tests to examine the question.

(4) It appeared that such series of tests on standard cottons would be of interest both to those concerned in cotton growing and also to those concerned in cotton manufacture. The results of these tests are accordingly now being published.

The cottons which have been chosen in the first instance as Standard Indian Cottons are those, more or less, recent Agricultural Department selections which have passed into extended cultivation These are the following —

		Seasons
Bombay Cottons —		
1	Dharwar No. 1 (Kumpta)	1923-24 1924-25
2	Gadag No. 1 (Dharwar American)	1923-24, 1924-25
3	Surat 1027 A. L. F.	1923-24 1924-25
Punjab Cottons —		
4	Punjab-American 4F	1924-25
5	Punjab-American 285F	1923-24, 1924-25.
6	Punjab-American 289F	1924-25
U. P. Cottons —		
7	Cawnpore [illegible]	1924-25
8	Cawnpore American (C. A. [illegible])	1924-25
9	[illegible] No. [illegible]	1924-25
10	[illegible] No. [illegible]	1924-25
Madras Cottons —		
11	Coimbatore Cambodia ([illegible]) (Co. 1)	1923-24, 1924-25
12	Nandyal (Sel. No. 14 (Northerns))	1923-24 1924-25
13	*Hagari* Sel. No. 25 (Westerns)	1923-24, 1924-25
14	Karunganni [illegible]	[illegible]

As stated above, in the course of these tests on the standard cottons an answer has been sought to the question What is the minimum weight of cotton necessary for a trustworthy spinning test ? Attention was drawn to this in the previous note, where it was pointed out that when tests of new cottons are being made, only small samples of cotton are available, and yet it is most desirable to have a spinning test made at as early a stage as possible. A cotton breeder grows a number of strains at one time: he has neither the time nor the staff nor the land available for growing large quantities of all his strains At a certain stage, therefore, he cannot continue to multiply all of them, for this purpose he has to select some and reject the others. Evidently his work will be tremendously facilitated if a reasonably accurate spinning test of his cotton can be made when only about 10 lbs. of lint of any given strain are available, and he will be correspondingly hampered if a demand is made for at least 100 lbs. of lint for the spinning test. It must be remembered that the value of the spinning test lies entirely in its being a guide to the quality of the cotton, and therefore to its market value. But the spinning test by itself does not enable the cotton breeder either to retain or reject any given strain, for this is only one side of the question from an agricultural standpoint. The ultimate test of any variety is the average monetary return which it yields per acre under perfect marketing conditions. This involves two factors, *viz.*, the spinning value of the cotton, and the yield of ginned cotton per acre. These factors depend on a number of plant characters many of which are imperfectly understood, so that extended field tests are necessary before any variety can be brought to the notice of cultivators In these circumstances the value of the spinning test lies in the help it affords the breeder when classifying his strains into: (1) Strains worth multiplying and extended field-testing; (2) Strains worth further study; (3) Strains not worth multiplying. By acting according to this classification in the following season he will obtain for the spinning tests larger quantities of the cottons of class (1), while by simply maintaining and not multiplying in the succeeding season the cottons of classes (2) and (3) he will obtain sufficient lint of these to allow of repeat small sample spinning tests, the results of which will serve to check the conclusions for the previous season's crops. It is important to notice that no final decision as to the fate of any given type would be based on the results of a spinning test on 10 lbs. weight of cotton lint for a single season. The whole question therefore resolves itself into this: Are the results from tests on a 10-lbs. sample of cotton sufficiently trustworthy to be used as a guide in the sense indicated above? An affirmative answer to this question is provided by the series of tests described in the present report.

the duplicate lot (any sample submitted is normally spun in duplicate lots) another 10 test bobbins are taken from spindles 73—82. The same spindles are used to provide the test bobbins for every sample Records are maintained for each spindle separately both as to the yarn breakages sustained on it, and as to the yarn tests themselves It may be thought that this method is unduly favourable to the cotton *But it has to be remembered that the spinning test is above all other things a test of the sample of cotton, and for this reason it is essential to keep the treatment in the machinery as constant and as much under control as possible* By testing only the bobbins from selected spindles it is possible to check whether the spindles are working truly or not. By the system adopted at the Technological Laboratory it is at least ensured that all samples are compared under as similar conditions as possible so far as the machinery is concerned That this is most desirable in the conduct of spinning tests on cotton can hardly be gainsaid From these considerations the conclusion is therefore drawn that on the whole it is to be expected that the results obtained in the Technological Laboratory will approximate to those obtained under the best mill conditions

As previously mentioned, these tests on the standard cottons were arranged so as to furnish definite information as to whether satisfactory spinning tests *could* be made on small samples For this purpose the various cottons were generally tested in a number of lots having the following initial weights :—

100 lbs., 10 lbs., 5 lbs (2 lots), 2 lbs. (2 lots).

It appeared that it was only by such series of tests that it would be possible to obtain definite knowledge as to the degree of reliability of tests on small samples.

II. Details of Spinning Tests.

The machines normally used for the spinning tests are listed below, together with certain details as to speeds, etc., at which the machines are run :—

Blow Room Machinery.

(1) [illegible] R P M
(2) [illegible]
(3) [illegible]
(4) [illegible]

Card Room and Spinning Machinery

(5) Two Revolving Flat Cards,
Cylinder speed formerly (up to Sample No 56) 190 R.P.M., now 160 R P M
Doffer speed 14 R P M
Flat speed formerly (up to Sample No 56) 4 inches per minute now 3 inches per minute

(6) One set of Drawing Frames,
Front roller speed 350 R P M
Front roller diameter 1 3/16 inch

(7) One Slubbing Frame (36 spindles)
Front roller speed 210 R P M
Front roller diameter 1¼ inch
Spindle speed 550 R P.M

(8) One Intermediate Frame (50 spindles).
Front roller speed 156 R P M
Front roller diameter 1 1/16 inch
Spindle speed 780 R.P M

(9) One Roving Frame (64 spindles).
Front roller speed 132 R.P M
Front roller diameter 1 inch
Spindle speed 1160 R P.M.

(10) Two Twist Ring Frames (48 spindles each).
Particulars are given in the tables for each sample separately.

In order to preserve a uniform basis of comparison all yarns are spun with a medium degree of twist only, the twist constants employed being 3.75, 4, 4 25. So far as the sample supplied will permit, it is first spun into yarn of 20's counts with the twist constant 3.75. If the results in this count justify it, the cotton is then spun into either 30's or 40's yarns, or both, with one or both the other twist constants Cottons of very poor staple, however, are spun at once into 10's counts with the twist constant 4, and other possible counts decided upon from the results for the 10's In short, then, it may be stated that a cotton is spun into yarns of 20's, 30's or 40's counts with one or other of the appropriate twist constants, but very poor cotton is spun into 10's and neighbouring counts The actual spinnings must depend upon the preliminary tests: *in some cases 20's yarn is spun* with the 3.75 twist constant, 30's yarn with the 4 twist constant, and 40's yarn with the 4.25 twist constant. A less good cotton may be spun into 20's yarn with the 3.75 twist constant, 30's yarn with the 4 twist constant, and 30's yarn again with the 4.25 twist constant. The normal practice in any case is to make spinnings of three types of yarn. Spinning tests are ordinarily made in duplicate. From the consideration of the results of these duplicate tests it is possible to form a fairly accurate idea of the highest counts of warp yarn of moderate twist for which the given sample is suitable. In arriving at this conclusion due weight is given to the performance of the sample during the various

spinning processes, to the number of yarn breakages per ounce of yarn spun on the ring frame, and to the yarn test results, chiefly those for counts, lea strength and twist. The following table shows the standard breaking loads which have been adopted for various counts of yarn subjected to the lea test —

Counts	*Breaking load.* lbs
Up to 14	.90
16	.81
18	.73
20	.67
22	.62
24	.58
26	.54
28	.51
30	.48
32	.46
34	.44
36	.42
38	.40
40	.39

An account may now be given of the detailed treatment of samples during the spinning test, with particular reference to small samples. Normally the cotton is passed through the lattice feeder, which feeds direct to the Crighton opener; the material is collected after passing through the Crighton and is then passed through this machine a second time, being fed by hand. On again emerging from the Crighton the material is collected, and then fed by hand to the hopper feeder, from which it falls on to the feed-lattice of the scutcher. It is at this point that one of the main difficulties in the treatment of small samples is encountered With a small sample it is not possible to keep the hopper full throughout the whole or even the major portion of the operation, so that when the emerging cotton falls on to the scutcher lattice it gradually thins out as the amount of cotton in the hopper diminishes. In order to avoid irregularities from this cause the cotton is evened out on the scutcher lattice by hand. It then passes through the scutcher and the lap is formed. This lap is of course irregular at its two ends Even with a 5-lbs. sample four laps are made, as it is found that better results can be obtained in this way than by making one lap and folding it on itself for further scutching. The four laps are then unrolled one above the other on the scutcher lattice and again passed through the scutcher. This process is repeated once again, the three passages through the scutcher corresponding with opener, intermediate and finisher scutchers. As a result of the method of treatment adopted it is only the two ends of the finisher lap which are irregular In the subsequent treatment the material of these end

portions is carefully kept aside, and tests made only on the central portions, which alone represent the normal material as it would be obtained if the cotton were being treated in bulk. In all the subsequent stages special attention is given to this point, in order that the test bobbins finally obtained shall be truly representative of what would be obtained with bulk spinning. In the card, therefore, the first and last portions of the sliver are not used for rovings for the test bobbins, but in order to make the determinations of waste as accurate as possible, the rejected portions of sliver are passed through the subsequent machinery separately, and their weights included at each stage It is the necessity for rejecting such portions of the material which in effect fixes the lower limit of the weight of the sample. It may be added that a 2 lbs sample is the minimum which can be spun satisfactorily in the different counts, at any rate with the present procedure. Even in this case it has sometimes been found impossible to avoid using a small portion of the rather finer card sliver which, as already stated, it would be better not to use in the preparation for the test bobbins. Moreover, it is only possible to spin four instead of ten test bobbins in each count for the 2 lbs. sample. All things considered, therefore, the tests on these samples can hardly be regarded as so satisfactory in general as the tests on samples weighing 5 lbs. and upwards. Nevertheless, as will appear later in this note, it has not been found possible to justify this conclusion by reference to the *actual results for the 2-lbs* samples *here reported on.*

The normal procedure after carding the material is to pass it through two heads of drawing. The material is then passed through the slubbing, intermediate, and roving frames, and spun with single hank roving in the ring frame. For the better class cottons the drafts from the card onwards are so arranged that the draft for the yarn of 30's counts is about 6 The practice hitherto has been to obtain different counts merely by changing the draft in the ring frame. While this expedient may not be entirely satisfactory it has the practical advantage of saving much time in making changes on the preparatory machinery, with all the testing of wrappings which would otherwise be necessary. It is possible therefore that only the medium counts can be regarded as having been spun under the most favourable conditions. As the matter is one of some importance it is proposed to investigate the point for a number of standard cottons. The actual drafts which have been used, together with other ring frame particulars, are given in the tables relating to each sample reported on From these particulars various deductions about the spinning operation can readily be drawn if desired. Thus, from the front roller speed (column 12) and the roller diameter (column

13), it is a simple matter to calculate the theoretical production. In most cases the figures for actual production of the highest count spun are also given, so that the spinning efficiency for this count (where the spinning efficiency is likely to be least) can also be calculated The figures for card production (column 9) give some idea of the conditions of working of this machine The "ring frame turns per inch" (column 15), taken with the counts (column 3), show the type of yarn which was being spun.

Figures are given for each lot of cotton tested to show the percentage waste made at each stage The wastiness of a cotton is of course a very important matter because the waste represents an economic loss, even although part of it may be used in mixings for lower counts There is no doubt that the wastiness of a cotton depends on many factors, some are derived from the characters of cotton plant—these in turn being derived from hereditary or environmental factors operating during growth—some may be derived from the machinery used in treating the material, and others from the human element In these reports it is impossible to separate the effects of these various factors; but from the known origin of each of the cottons it may be taken as a general rule that for any given sample the waste made is not greater, and is in many cases probably less, than would be obtained from the commercial crop of the particular cotton.

In the spinning tests great care is taken at all stages to recover the waste. After each lot of cotton has been put through, the cleaning operation is commenced. The waste made at each machine is weighed separately on a delicate Avery Mint balance of maximum load 50 lbs and turning by five grains With small samples the cleaning operation for many of the machines takes up considerably more time than the processing of the cotton itself. Taking the carding engine as an example, it may take about ten minutes to effect the carding of a 2-lbs. sample but another half an hour's running will be necessary before flat strips cease to be produced, and a further twenty minutes are then necessary for cleaning. In the present reports the wastes are shown simply as totals for blow room, card room, and spinning room respectively, with the total loss given separately. It should be noted that ordinary mill practice is followed in the recording of these losses; for instance, the percentage "Card Room Loss" (column 6) represents the total loss in the card and other preparation machinery reckoned as a percentage of the weight of the laps received from the blow room. In column 8 ("Total Loss,") are given of course the total cotton losses reckoned as percentages of the original weights of the samples.

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Tests on the yarn are necessary for the expression in numerical form of the quality of the yarn These tests, however, do not give a complete expression in this respect, and it is still necessary to retain more or less qualitative expressions to show the colour, neppiness and regularity ; an even more important quality of the cotton itself may be referred to, namely, its behaviour in the spinning process, to which the tests on the spun yarn are but an imperfect guide, even if they may be taken as a guide at all. Behaviour in the spinning frame is shown fairly well by the number of yarn breakages per ounce of yarn spun, a feature which is included in these reports, this is supplemented by the Spinning Master's report on the cotton

As regards the yarn tests, those commonly carried out are:—

(1) Counts actual: determined on an Avery Yarn Balance by weighing the individual leas used in the lea strength tests.

(2) Lea strength: determined on the Goodbrand Lea Tester No 18, maximum load 150 lbs, electrically driven.

(3) Single thread strength:
(4) Single thread extension:
} determined on 12-inch lengths in the Goodbrand Single Thread Tester No. 20, maximum load 16/64 ozs.

(5) Twist: turns per inch: determined on the Baer Twist Tester No. 17 on half-inch lengths, or on the Goodbrand Twist Tester No. 2 on one-inch lengths.

The rate of traverse of the lower grip in both the strength testing machines is 12 inches per minute.

As regards the yarn testing, it may be explained that the normal practice in the Technological Laboratory is to make all the tests on the test bobbins referred to earlier in this note. As 10 bobbins are normally available for each count of each lot of cotton, the yarn from each bobbin is used for 5 tests for counts and lea strength, 25 tests for single thread strength and extension, and 20 tests for twist. A careful analysis of the results for some of the earlier tests indicated that the strength and twist tests on the single thread might be reduced in number without appreciable error, and for later

samples 20 tests were made on each bobbin for single thread strength and extension and 16 tests for twist The figures given in the various reports for any one count of any one lot of cotton therefore represent the mean values for the 10 bobbins *i e* 50 tests for counts and lea strength, 250 (or 200) tests for single thread strength and extension and 200 (or 160) tests for twist When the lots are only 2 lbs each in weight it is possible to spin only four bobbins of each count and in this case the yarn from each bobbin is used for 10 tests for counts and lea strength 50 tests for single thread strength and extension, and 50 (or 40) tests for twist, making in all 40 tests for counts and lea strength, 200 tests for single thread strength and extension and 200 (or 160) tests for twist

The most important tests are those for counts and lea strength These are the tests which are generally carried out, together with the yarn examination on black-boards, as a matter of routine in ordinary mill practice In spite of its many acknowledged defects, the lea strength test is probably the most satisfactory test for strength because the sampling error is so much less in this test than in the single thread tests Thus in 50 lea tests 72 times as much yarn is tested as in 250 single thread tests: it is evident, therefore, that the unavoidable errors due to faulty sampling are much less likely in the former case than in the latter Where therefore the lea tests and the single thread tests appear to be contradictory it is most probably due to this sampling error, and in this case greater credence must ordinarily be given to the results for the lea tests. But before this is done it is necessary to examine the results to see whether any alternative explanation is possible. For instance, where a regular yarn is being compared with an irregular yarn it is to be expected that the ratio of the lea strength to the single thread strength will be greater for the regular yarn than it will be for the irregular yarn. The figures given for the irregularity of single thread strength will serve to indicate whether this particular factor is operative.

There is no doubt that, theoretically, the lea test is not entirely satisfactory, first, because it affords no trustworthy guide to the extension of the yarn, and secondly, because in the subsequent stages of manufacture the yarn is seldom treated in the form of a lea or hank, the only noteworthy exceptions being hank mercerising and hank dyeing. In other operations—winding, warping and weaving—the yarns are so stressed and strained that the breakage of a single thread leaves the other threads practically unaffected. But in the lea test one continuous length of yarn is being tested, and the breakage of a single thread will greatly affect the portions of the yarn

near the place of breaking so that when the lea has broken in only a few places it cannot withstand any further increase in load. It appears to follow, therefore, that the lea strength test cannot be a complete guide to the behaviour of the yarn in the processes of winding, warping, and weaving. For these reasons the single thread test, which yields a value for single thread extension as well as of single thread strength, has been retained for the routine examination of the yarn spun, in spite of the much greater chance of sampling error in this test. Some idea of the sampling error possible may be gathered from the fact that for a bobbin containing, say, 1½ ozs. of 20's yarn, the total length of yarn thereon is some 1,500 yards; of this, therefore, some 600 yards are actually tested in the 5 lea tests, less than 7 yards in the 20 single thread tests, and from only one-half to one-quarter of a yard in the twist tests (according as the twist tests are made on one-inch or half-inch lengths) The exigencies of the case make it necessary to test consecutive lengths in the lea and single thread tests. This is comparatively unimportant in the lea test, as the total quantity of yarn tested is a large proportion of the whole, and serious error will only ensue if the yarn on the top half of the bobbin differs appreciably from that on the bottom half. But it is quite another matter with the single thread tests, for it is most unlikely that any 7-yards length will be truly representative of all other 7-yards lengths in the 1,500 yards, so that although within any particular 7-yards length the variation may be small, as between one 7-yards length and another the variation may be considerable. It is proposed to test a number of bobbins completely in order to ascertain if possible what may be regarded as a normal variation of the latter type.

The variation which occurs in all the results from the 10 seven-yard lengths obtained from the 10 bobbins is indicated by the irregularity. The irregularity is determined by subtracting from the mean the average of all those results which are less than the mean, and then dividing this difference by the value of the mean. The fraction thus obtained is usually multiplied by 100 to express the irregularity as a percentage. The irregularity derives *its importance from the fact that what matters in the practical operations is* not the average single thread strength or the average single thread extension, so much as the number of places which are unusually weak or have unusually low extension, because it is these which are responsible for trouble by breakages. The irregularity is therefore to a certain extent a measure of the likelihood of breakages occurring. It suffers from the defect, however, that it is a statistical abstraction, so that its significance cannot be visualised A new statistical measure has therefore been introduced in these reports which

avoids this objection The new measure has been termed the " Weakness Percentage " , it represents the percentage of the results for single thread strength which are less than three quarters of the average strength. This is a quantity which can be visualised directly with reference to practical conditions of working A similar statistical measure for the extension is no doubt at least equally important, and it is proposed to adopt the expression " Lowness Percentage " to express the percentage of results for extension which are lower than three-quarters of the average extension There is reason to believe that the lowness percentage is correlated with the weakness percentage, so that the figures for the latter may suffice to express both ; it is proposed to investigate this matter In the present report, however, only the figures for " Weakness Percentage " are given

The statistical expressions for irregularity are, however, only one way of regarding the question. Another important method in common use is to inspect the yarn when wound on to black-boards For purposes of distinction, in the reports the term " Irregularity " is restricted to the statistical expressions, while the term " Evenness " is used to indicate the property as estimated by visual examination. The evenness is expressed by reference to one of the following five classes .—

1. Very even.
2. Even.
3 Fairly even.
4. Uneven.
5. Very uneven.

At the same time as the evenness is observed, the opportunity is taken to observe the numbers of neps present in the yarn, as the presence or absence of neppiness constitutes a very important practical feature. For the purpose of the present reports the number of neps has been counted in ten portions of yarn each 3.6 inches long, taken from each of four bobbins ; the neppiness is expressed as the average number of neps per yard of yarn. These features are included in the " Yarn Examination Report."

In addition to the fibre test results (with the graphs relating to them), and the spinning test results (including the Spinning Master's report on the cotton and the yarn examination report), there are included the Grader's report on the samples and, as far as possible, the indication of the size of the crop of the standard cotton in question. It will no doubt be found of interest

to compare the Grader's report with the actual behaviour of the cotton in the fibre and spinning tests, while the size of the crop has of course an important practical interest

Most of the important features presented by these spinning test reports have now been discussed There remains, however, one noteworthy exception—the physical conditions of temperature and humidity prevailing during the spinning process and during the testing In the attached reports figures are given to show the average temperature and relative humidity prevailing during the actual spinning operation on the ring frame, and also the average relative humidity prevailing during the tests for counts, lea strength, single thread strength and extension Some difficulty has arisen in connection with the presentation of these figures. It would be preferable to give the temperature and relative humidity prevailing during each separate operation or test, but to do this would mean a very considerable expansion in the size of each table Complete records of these physical conditions are in fact maintained and it is believed that the figures recorded give at least a good indication of the conditions under which the spinning and testing have been carried out, and that no serious misconceptions as to these conditions or as to the qualities of the cottons will be caused by confining the reports to these average figures only.

IV. Remarks.

For the first season in which any given cotton was tested, a whole bale of it was obtained, and this was used, as previously stated, for spinning tests in a number of different lots. For the subsequent season duplicate tests have been made on 10-lbs. lots only. In order to facilitate comparisons in the tables, the results for yarns which are nominally similar but spun from different lots have been arranged one below the other. For example, in Table 1, instead of putting together all the results for the three types of yarn from the 100-lbs. lot, then all the results for the yarns from the 10-lbs. lot, and so on, the plan has been adopted of putting together all the results for the 20's counts of the various lots with 16.85 turns per inch, then all the results for 30's counts with 21.86 turns per inch, and finally all the results for 40's counts with 26 97 turns per inch. By this means it is a simple matter to compare the tests on the different lots for each count in turn. The wastes are entered only for the 20's (or 10's) counts: but as the same rovings are used for all three counts normally spun from any lot it follows, of course, that the losses recorded for the main sources of waste—the blow room and card room—

apply to all the counts the figures for " Spinning Loss " actually refer to the total spinning loss for all the counts of the particular lot under consideration.

The present reports include those on the cottons Surat 1027A.L.F. (Sample No 1), Coimbatore Co 1 (Sample No 2), and Punjab-American 285F (Sample No 3), which were published with the previous note. In incorporating these earlier reports the opportunity has been taken to add some further particulars in accordance with the requirements of the new form. As the machinery was new when these early samples were tested and the present routine had not then been developed, further tests on these cottons were made at a later date (Sample Nos 104, 105 and 106) The results for these and for the earlier samples are given together in the various tables

In order to show in brief compass how the various standard cottons compare with one another, a Summary Table has been prepared (Table 17) showing the results for the 10-lbs samples only, spun into the standard counts—20's or 10's according to the cotton—with standard twist Where two 10-lbs. samples have been spun the practice has been followed of giving the results for one of them only—that for which the spindles used have been the same as for the sample with which they are compared. Another point of special importance is that as the card waste for the earlier samples was deemed to be excessive, the necessary pulleys and change wheels were obtained for slowing down the main cylinder and the flats, these changes were made after the tests on the Texas-American cotton (Sample No 56), the main cylinder speed being reduced from 190 to 160 R P M and the speed of the flats from 4 to 3 inches per minute.

Any special features relating to individual cottons are noted in the separate reports. The following remarks are therefore restricted to the more general aspects which these tests present. In the first place reference may be made to the fact that in a number of cases the actual twist differs from the nominal twist. These differences may be accounted for by various reasons chief among which are first, that only a very small proportion of the yarn is actually used in the twist tests: and secondly that a considerable personal element enters into these tests, due more particularly to the difficulty of deciding the exact point at which twist has been removed. These difficulties give rise to the question as to whether it is worth while making these twist tests on single yarns The tests are, however, being continued for the present

From the above table we see that the average differences in the card room waste percentages are :—

For the 10 lbs.	samples	0.9
,, ,, 5-lbs. (1)	,,	2.1
,, ,, 5 lbs. (2)	,,	2.2
,, ,, 2 lbs. (1)	,,	4.5
,, ,, 2 lbs. (2)	,,	5.0

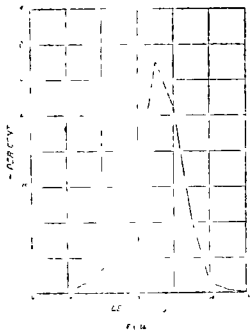
It is important to observe that the actual difference for any given 10-lbs. sample is very near the average difference of 0.9. If therefore we subtract 0.9 (or say 1) from the card room waste percentage for a 10-lbs. sample we shall obtain, to a very close degree of approximation, the card room waste percentage for a 100-lbs. sample, *i.e.* for the cotton when treated in bulk. Except for the 4F cotton, the same may be said in a rather lesser degree of the 5-lbs. samples ; in this case it is necessary to subtract 2 from the card room waste percentage in order to obtain the card room waste percentage for the cotton when treated in bulk. From the fact that all the differences for the 4F cotton are high, it is surmised that these are really due to an abnormally low value for the 100-lbs. sample. The variation between different 2-lbs. samples appears to be too high to permit of the use of a correction figure, especially as it would be about 5—nearly as high as the actual card room loss itself for many cottons. Except for the card room waste there is little to distinguish between the results for the samples of different weight. The differences between the results for any one count spun from a number of lots of different weight are no more than often obtain for lots of the same weight. If therefore the spinning tests had been confined to tests in duplicate on lots weighing only five pounds or ten pounds respectively, they would have led to accurate conclusions regarding the spinning capacity of the cotton. There are, of course, a number of minor anomalies which are referred to in the remarks upon the individual cottons. But these anomalies would not of themselves have caused a wrong judgment to have been formed on any of the cottons (with one doubtful exception—Karunganni, Sample [illegible] and can be allowed for. It is therefore concluded that the procedure which has been adopted for testing small samples submitted by cotton breeders, *viz.*, making spinning tests in duplicate on lots weighing only 5 lbs. is completely justified. Certainly there are now the strongest grounds for this conclusion so far as it applies to the range of counts possible with Indian cottons, *i.e.*, up to 40's. Whether the conclusion can be extended to the utmost limits of fineness to which better class cottons can be spun is a matter which lies beyond the scope of the present series of tests.

14th April, 1926.

A. JAMES TURNER,

Director.

TEST REPORTS.



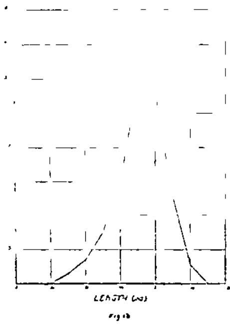


Fig 1b

TABLE 1—SPINNING TEST RESULTS

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
				Waste Percentages				Spinning Particulars						
Sample No.	Season.	Counts Nominal.	Weight of Sample	Blow Room Loss	Card Room Loss.	Spinning Loss	Total Loss	Card Production per Hour	Ring Frame Production per Spindle per 10 hrs	Ring Frame Yarn Breakages per oz Yarn	Ring Frame Front Roller Speed R. P. M	Ring Frame Front Roller Diameter Inch	Ring Frame Draft	Ring Frame turns per Inch.
			lbs					lbs	ozs					
62/1	1923 24	20	100	6 5	6 5	0 9	13 3	.		0 13	183	7/8	4 44	16 85
62/2	"	"	10	6 4	7 8	0 7	14 3			0 02	184	7/8	4 54	16 85
62/3	"	"	5	6 2	8 7	1 0	15 2			0 04	184	7/8	4 44	16 85
62/4	"	"	5	6 1	8 6	0 9	14 9			0 04	183	7/8	4 44	16 85
62/5	"	"	2	6 0	10 7	1 2	17 0			0 23	183	7/8	4 65	16 85
62/6	"	"	2	6 2	10 7	1 4	17 4			0 04	183	7/8	4 26	16 85
62/1	"	30	100							0 16	143	7/8	6 66	21 86
62/2	"	"	10							0 09	142	7/8	7.14	21.86
62/3	"	"	5							0 09	142	7/8	7.07	21.86
62/4	"	"	5						.	0.09	142	7/8	6 66	21.86
62/5	"	"	2							0 11	142	7/8	6 83	21 86
62/6	"	"	2	.				..	.	0 04	141	7/8	6 45	21.86
62/1	"	40	100	.		.		11 9	2 43	0 16	116	7/8	8 66	26 97
62/2	"	"	10	..					.	0 02	115	7/8	9 29	26 97
3 /3	"	"	5	..				.		0 09	115	7/8	9 31	26 97
62/4	"	"	5	..	.			.	..	0.09	115	7/8	8.83	26 97
62/5	"	"	2	.	..	.	.		..	0 23	115	7/8	9 19	26 97
62/6	"	"	2	..	..	..	..	.	..	0 04	115	7/8	8 55	26 97
72/1	1924-25.	20	10	14 6	8 7	0 9	22.5	..	..	0.34	183	7/8	4.35	16.85
72/2	"	"	10	14 [illegible]	8 8	0 9	23 0	..	..	0 28	183	7/8	4.44	16.85
73/1	"	30	10	..	.	..	..	..		0 31	142	7/8	6.66	21.86
73/2	"	"	10	.	..	..	..	..	..	0.15	142	7/8	6.83	21.86
72/1	"	40	10	..	.	.		..	..	0 39	115	7/8	8 68	26.97
72/2	"	"	10	.	..	.	..	.	..	0 39	115	7/8	8 83	26.97

FOR DHARWAR No. 1 (KUMPTA).

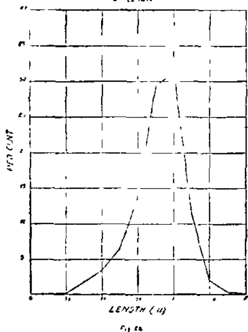
16	17	18	19	20	21	22	23	24	25
Yarn Test Results.							Temperature	Relative Humidity.	
Counts Actual	Lea Strength Lbs	Single Thread Strength Ozs	Single Thread Irregularity %	Single Thread Weakness Percentage	Turns per Inch Actual	Single Thread Extension %	Spinning Room °F	Spinning Room %	Testing Room %
20 3	92.3	10 7	10 0	2 8	19 3	4 1	85	80	57
19 2	102 7	10.6	9 2	2 0	19 3	4 4	87	79	62
19 0	100 7	12 1	10 4	0 8	19 0	3 9	87	79	56
20 4	90 5	10 3	11 3	3 6	19 3	3 8	88	83	56
20 7	85 5	11 1	9 2	2 1	19 8	3 5	88	83	52
18 9	95 3	11 7	11 0	1 3	20 0	4 5	89	76	60
30 3	51 2	6 5	11 1	6 0	24 2	3 4	85	81	53
30 1	52 4	6 2	11 3	4 0	23 6	3 5	68	80	59
29 2	53 1	6 3	11 4	5 2	24 1	2 9	68	80	51
30 5	53 3	7 1	11 2	2 0	24 5	3 5	69	64	59
30 1	49 8	6 6	9 8	2 5	24 6	3 3	89	64	50
30 7	54 2	7 0	10 1	2 2	25 0	3 5	69	76	60
40.9	31 8	4 9	13 2	8 4	27 8	3 3	66	81	55
41.1	30 5	4 6	14 4	8 0	28 0	3 3	68	83	50
41 1	31 5	4 8	13 7	8 8	28 5	3 0	68	83	56
39 5	34 4	5 0	17 5	13 6	29 4	3 4	69	64	62
41 4	32 7	5 2	13 9	6 7	28 4	3 7	69	64	62
40 5	32 6	4 9	13 4	7 1	29 0	3 2	66	81	57
18 9	101 8	14 0	7 5	0	15 9	4 5	83	79	65
19 3	98 6	13 3	6 7	0	15 1	4 4	83	79	57
28 6	56 0	8 2	10 3	0 4	19 2	4 0	63	79	68
28 8	54 9	9 0	8 0	0	20 3	4 0	83	79	65
40.1	31 6	6 8	8 1	0 8	22 8	4 0	82	78	55
39 4	33 1	6 5	8 4	0	23 9	3 7	82	78	59

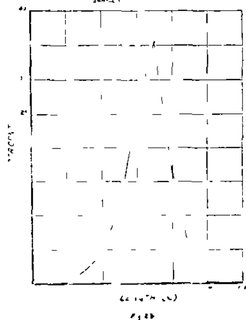
TABLE 1—SPINNING TEST RESULTS

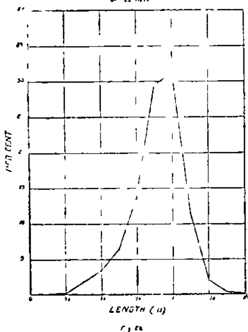
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
				Waste Percentages				Spinning Particulars						
Sample No	Season.	Counts Nominal.	Weight of Sample.	Blow Room Loss.	Card Room Loss.	Spinning Loss	Total Loss	Card Production per Hour	Ring Frame Production per Spindle per 10 hrs	Ring Frame Yarn Breakages per oz Yarn	Ring Frame Front Roller Speed R P M	Ring Frame Front Roller Diameter Inch	Ring Frame Draft	Ring Frame turns per Inch.
			lbs					lbs	ozs					
62/1	1923-24	20	100	6 5	6 5	0 9	13 3			0 13	183	7/8	4 44	16.85
62/2	,,	,,	10	6 4	7 8	0 7	14 3		.	0 02	184	7/8	4 54	16 85
62/3	,,	,,	5	6 2	8 7	1 0	15 2			0 04	184	7/8	4 44	16 85
62/4	,,	,,	5	6 1	8 6	0 9	14 9			0 04	183	7/8	4 44	16 85
62/5	,,	,,	2	6 0	10 7	1 2	17 0			0 23	183	7/8	4 65	16 85
62/6	,,	,,	2	6 2	10 7	1 4	17 4			0 04	183	7/8	4 20	16 85
62/1	,,	30	100							0 16	143	7/8	6 66	21 86
62/2	,,	,,	10						.	0 09	142	7/8	7.14	21.86
62/3	,,	,,	5							0 09	142	7/8	7 07	21 86
62/4	,,	,,	5							0 09	142	7/8	6 66	21 86
62/5	,,	,,	2						.	0 11	142	7/8	6.83	21.86
62/6	,,	,,	2					-	.	0 04	141	7/8	6 43	21.86
62/1	,,	40	100	..				11 9	2 43	0 16	116	7/8	8 66	26 97
62/2	,,	,,	10	.					.	0 02	115	7/8	9 29	26.97
62/3	,,	,,	5	..						0 09	115	7/8	9 31	26 97
62/4	,,	,,	5	..			..	.	.	0 09	115	7/8	8.83	26 97
62/5	,,	,,	2	..	..				..	0 23	115	7/8	9.19	26 97
62/6	,,	,,	2	..	..	..	.		..	0 04	115	7/8	8 55	26 97
72/1	1924 25.	20	10	14 6	8 7	0 9	22 5	..	..	0.34	183	7/8	4 35	16 85
72/2	,,	,,	10	14 8	8 8	0 9	23 0	..	..	0 28	183	7/8	4 44	16 85
72/1	,,	30	10	..		..	..	..	..	0 31	142	7/8	6 66	21.86
72/2	,,	,,	10	..	..	..	..	..	..	0.15	142	7/8	6.83	21.86
72/1	,,	40	10	.	.		.	.	.	0.39	115	7/8	8 66	26 97
72/2	,,	,,	10	..	..	..	..	..	..	0 39	115	7/8	8 83	26.97

FOR DHARWAR No. 1 (KUMPTA).

16	17	18	19	20	21	22	23	24	25
Yarn Test Results.							Temperature.	Relative Humidity.	
Counts Actual	Lea Strength Lbs	Single Thread Strength Ozs	Single Thread Irregularity, %	Single Thread Weakness Percentage	Turns per Inch Actual	Single Thread Extension %	Spinning Room °F	Spinning Room. %	Testing Room. %
20 3	92 3	10 7	10 0	2 8	19 3	4 1	85	80	57
19 2	102 7	10 8	9 2	2 0	19 3	4 4	87	79	62
19 0	100 7	12 1	10 4	0 8	19 0	3 9	87	79	56
20 4	90 5	10 3	11 3	3 6	19 3	3 8	88	83	56
20 7	85 5	11 1	9 2	2 1	19 8	3 5	88	83	52
18 9	95 3	11 7	11 0	1 3	20 0	4 5	89	76	60
30 3	51 2	6.5	11 1	6 0	24 2	3 4	85	81	53
30 1	52 4	6 2	11 3	4 0	23 6	3 5	88	80	59
29 2	53 1	6 3	11 4	5 2	24 1	2 9	88	80	51
30 5	53 3	7 1	11 2	2 0	24 5	3 5	89	64	59
30 1	49 8	6 6	9 8	2 5	24 6	3 3	89	64	50
30 7	54 2	7 0	10 1	2 2	25 0	3 5	89	76	60
40 9	31 8	4 9	13 2	8 4	27 8	3 3	86	81	55
41 1	30 5	4 6	14 4	8 0	28 0	3 3	88	83	50
41 1	31 5	4 8	13 7	8 8	28 5	3 0	68	63	56
39 5	34 4	5 0	17 5	13 6	29 4	3 4	89	64	62
41 4	32 7	5 2	13 9	6 7	28 4	3 7	89	64	62
40 5	32 8	4 9	13 4	7 1	29 0	3 2	66	81	57
18 9	101 8	14 0	7 5	0	15 9	4 5	63	79	65
19 3	98 6	13 3	6 7	0	15 1	4 4	83	79	57
28 6	56 0	8 2	10 3	0 4	19 2	4 0	63	79	68
28 8	54 9	9 0	8 0	0	20 3	4 0	63	79	65
40 1	31 6	6 8	8 1	0 8	22 8	4 0	62	78	55
39 4	33 1	6 5	8 4	0	23 9	3 7	62	78	59


PER CENT
LENGTH




PER CENT
LENGTH (μ)

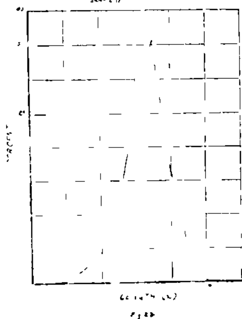


TABLE 2—SPINNING TEST RESULTS

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
				Waste Percentages.				Spinning Particulars.						
Sample No	Season.	Counts Nominal	Weight of Sample	Blow Room Loss.	Card Room Loss	Spinning Loss	Total Loss	Card Production per Hour	Ring Frame Production per Spindle per 10 hrs	Ring Frame Yarn Breakages per oz Yarn.	Ring Frame Front Roller Speed R P M	Ring Frame Front Roller Diameter Inch	Ring Frame Draft	Ring Frame turns per Inch.
			lbs					lbs	ozs					
70/1	1923 24.	20	100	5 4	6 9	0 7	12 5			0 21	184	7/8	4 65	16.85
70/2	,,	,,	10	4 5	7 1	0 8	12 1			0 25	183	7/8	4 54	16 85
70/3	,,	,,	5	4 9	8 9	0 5	13 8			0 09	182	7/8	4.35	16 85
70/4	,,	,,	5	4 6	8 4	0 6	13 1			0 04	182	7/8	4 35	16,85
70/5	,,	,,	2	5 1	9 6	0 7	14 6			0 33	184	7/8	4 35	16 85
70/6	,,	,,	2	5 7	10 7	0 7	15 6			0 33	184	7/8	4 44	16,85
70/1	,,	30	100							0 13	142	7/8	7 03	21,86
70/2	,,	,,	10							0 23	142	7/8	7 03	21,86
70/3	,,	,,	5							0 09	142	7/8	6.61	21,86
70/4	,,	,,	5							0 09	142	7/8	6 61	21,86
70/5	,,	,,	2							0 22	142	7/8	6 66	21,86
70/6	,,	,,	2							0.11	142	7/8	6 83	21 86
70/1	,,	40	100					11 4	2 43	0.12	114	7/8	9 46	26 97
70/2	,,	,,	10							0 25	115	7/8	9 46	26 97
70/3	,,	,,	5							0 09	115	7/8	8 83	26 97
70/4	,,	,,	5							0 09	115	7/8	8 83	26 97
70/5	,,	,,	2							0.22	114	7/8	8 66	26,97
70/6	,,	,,	2							0 11	114	7/8	8.79	26 97
71/1	1924 25.	20	10	8.4	8 6	1.4	17 3			0 36	183	7/8	4 35	16,85
71/2	,,	,,	10	8 4	9 1	1.2	17.7			0.27	183	7/8	4.35	16 85
71/1	,,	30	10							0.34	137	7/8	6.34	21,86
71/2	,,	,,	10							0 32	137	7/8	6.38	21,86
71/1	,,	40	10							0 59	108	7/8	8.39	26 97
71/2	,,	,,	10							0.53	108	7/8	8.50	26 97

FOR GADAG No 1 (DHARWAR-AMERICAN).

16	17	18	19	20	21	22	23	24	25
Yarn Test Results							Temperature.	Relative Humidity.	
Counts Actual.	Lea Strength Lbs	Single Thread Strength Ozs	Single Thread Irregularity, %	Single Thread Weakness Percentage	Turns per Inch Actual	Single Thread Extension %	Spinning Room °F	Spinning Room %	Testing Room. %
19 7	83 8	10 1	10 0	3 2	19 1	3.5	84	77	51
19.8	88 2	10 3	9.3	2 4	18 6	3 7	84	77	59
19 7	92 7	10 6	9 3	1 6	17 6	3 7	84	77	62
19.0	93.6	11 1	8 4	0 4	17.6	6 1	84	77	57
18 9	93 7	11 6	6 8	0 5	17 8	6 5	84	74	54
18 8	92.0	10.5	9 3	0 5	18 6	6 2	84	74	56
29 7	51 2	6.2	10 7	2 8	21.9	2 7	86	79	55
29 7	52 6	6 2	10 2	2 8	19 6	2 8	86	79	60
29.2	50 2	7 2	9.0	0 8	19 8	3 6	84	72	57
29.2	55 1	7 3	8 8	1 4	21 0	5.7	84	72	57
29 1	52 2	7.2	9 8	1.5	21 1	5 7	87	70	55
29 7	52 5	6 6	10 0	4 0	21 3	5 7	87	70	54
41.2	31 0	4 4	10 9	4 0	25 5	2 7	86	79	58
38.9	35 7	4 8	12 3	4 4	22 2	2 6	86	79	64
39 4	37 2	4 7	10 8	6 0	23 8	3 9	84	74	68
39 8	35 6	4 9	11 6	4 0	25 9	5 0	84	77	54
38 5	37 4	5 4	10 2	2 5	26 1	5 3	87	70	53
38 7	37 3	6 3	10 4	3 0	23 4	5 8	87	70	70
19.8	61 2	9 2	7 8	0 4	14 8	4 8	83	76	61
19.4	58 1	9 6	7 0	0	15 2	4 9	83	76	67
30.0	40.6	6 6	9 5	0	20 8	4 2	83	76	61
28 4	37 4	6 6	7 7	0 8	19 3	4 3	83	76	67
37.9	26 8	4 8	7 9	0	24 9	3 7	85	69	66
38 8	25 4	4 7	8 7	0	24 0	3 7	85	69	59

3 REPORT ON SURAT 1027 A.L.F.

for Seasons { 1923-24 (Sample Nos. 1, 104) / 1924-25 (Sample Nos. 31, 83) }

I SIZE OF CROP

About [illegible] bales [illegible] 15[illegible] acres

II GRADER'S REPORT

—	Season 1923-24	Season 1924-25
Class	Superfine [illegible]	Fine
Staple Length	15/16—17/[illegible] inch	15/16—17/16 inch
Staple Strength	Good	Good
Regularity	Regular	Regular

III FIBRE PARTICULARS

1 Fibre Length Distribution (Balls Sorter) —

Mean group length in eighths of an inch	Per cent. Season 1923-24	Per cent. Season 1924-25
2	1	0 2
3	[illegible] 5	1 1
4	1 [illegible]	2 1
5	[illegible]	4 7
6	9 2	9 1
7	18 3	22 1
8	[illegible] 9	35 1
9	[illegible] 5	18 8
10	1[illegible] 7	5 4
11	[illegible] 4	0 4

		Season 1923-24	Season 1924-25
2a	Mean Fibre Length by Balls Sorter (inch)	1 0[illegible]	0 95
2b	Mean Fibre Length by Baer Sorter (inch)	1 01	0 95
3	Mean Ribbon Width (inch)	[illegible]	00072
4	Mean Convolutions per inch	1[illegible]	125

IV SPINNING TESTS

1 *Treatment* —Lattice Feeder, Crighton Hopper Scutcher (3 times), Card, Drawing (2 heads), Slubber, Inter [illegible], [illegible] single [illegible] on Ring Frame No 1
2 *Spinning Master's Report* —1923-24 [illegible] a little [illegible], few seeds, very soft; 1924-25 creamy, clean and soft
3 *Spinning Test Results* —See Table 3
4 *Yarn Examination* —

—	Counts	Seasons Sample No [illegible]	Sample No [illegible]	Sample No 83/1	Sample No [illegible]	Sample No 1/5
[illegible]	2[illegible]	Even	—	Even	Even	Even to fairly even
	[illegible]	Fairly even [illegible]	Even to fairly even	Even to fairly even	Even to fairly even	Uneven
	[illegible]	Even to fairly even	—	Even to fairly even	—	—
[illegible]	2[illegible]	1 0	—	1 25	1.75	1 5
	[illegible]	1 25	—	1.25	2 5	1 25
	[illegible]	0 75	—	1 75	—	—

V REMARKS

[illegible] no great difference in the results for the 1923-24 cotton compared with the 1924-25 cotton, the latter [illegible] for warp yarn of moderate twist up to 30's

TABLE 3—SPINNING TEST RESULTS

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
				Waste Percentages.				Spinning Particulars.						
Sample No.	Season.	Counts Nominal	Weight of Sample.	Blow Room Loss.	Card Room Loss.	Spinning Loss.	Total Loss	Card Production per Hour.	Ring Frame Production per Spindle per 10 hrs	Ring Frame Yarn Breakages per oz. Yarn.	Ring Frame Front Roller Speed, R. P. M.	Ring Frame Front Roller Diameter Inch.	Ring Frame Draft	Ring Frame turns per Inch.
			lbs					lbs.	ozs					
1/1	1923 24.	24	100	..						—	..	7/8	4 88	19.81
1/2	"	"	10	.					.		..	7/8	4 93	19.81
1/3	"	"	5	7.0	10 0	1 9	17 7				149	7/8	4.27	19 81
1/4	"	"	5	6 4	8 1	1 9	15 7			.	148	7/8	4 66	19 81
1/5	"	"	2	9.2	17 7	2 1	26 9			.	152	7/8	4.66	19.81
1/6	"	"	2	8 0	14 7	2 7	23 6				152	7/8	4 66	19.81
1/1	"	28	100									7/8	5 55	21.29
1/2	"	"	10								.	7,8	5 78	21.29
1,3	"	"	5								130	7,8	5.00	21 29
1/4	"	"	5	.						.	130	7/8	5 54	21.29
1/5	"	"	2								130	7/8	5.54	21.29
1/6	"	"	2								130	7/8	5 54	21.29
104/1	"	20	100	6 6	6 6	0 6	13 2			0 32	181	7/8	4 26	16.85
104/2	"	"	10	6 4	8 2	0 6	14 5			0 11	183	7/8	4 17	16.85
104/3	"	"	10	6 3	7 8	0 6	14.1		.	0 11	181	7/8	4 08	16 85
104/1	"	30A	100	..						0 19	141	7,8	6 45	21 86
104/2	"	"	10	..			..	..	.	0 11	141	7/8	6 09	21.86
104/3	"	"	10	.		.		.	.	0 08	140	7/8	6 06	21 86
104/1	"	30B	100	..	.	..	..	11.8	3 67	0 12	132	7/8	6 45	23.11
104/2	"	"	10	..	.	.	.	.		0 10	133	7/8	6 25	23 11
104/3	"	"	10	.	..	..	..	..	..	0 11	130	7/8	6 08	23 11
31/1	1924 25.	20	4	3 9	7 8	0 7	11 6	..	..	..	173	7/8	4 59	16.85
31/2	"	"	4	4 3	7 8	0 7	12 0	.	..	..	173	7/8	4 59	16 85
83	"	"	10	5 2	7 8	0.4	12 8	..	..	0	181	7/8	4 00	16 85
83	"	30A	13	.	..	.	..	..	.	0 04	140	7/8	6.06	21.86
83	"	30B	10	..	..	..	..	.	..	0 09	132	7/8	6 06	23 11

FOR SURAT 1027 A.L.F.

16	17	18	19	20	21	22	23	24	25
Yarn Test Results.							Temperature.	Relative Humidity.	
Counts Actual.	Lea Strength Lbs	Single Thread Strength. Ozs.	Single Thread Irregularity %	Single Thread Weakness Percentage.	Turns per Inch Actual	Single Thread Extension %	Spinning Room. °F.	Spinning Room. %	Testing Room. %
24 2	68 7	7 8	8 2	1 0	16 1	4 2		..	..
24 3	65 4	7 9	8 5	1 2	15 8	3 8	.	..	..
23.1	71.1	8 9	8 3	1 0	17 2	5.1	75	41	71
24 0	64 2	8 7	9 1	1 0	20 4	5 0	78	65	66
23 3	64 7	9 0	10 1	3 1	16 1	5 2	74	45	71
21.9	72 4	8 5	10 1	1 3	15 8	4 9	74	45	70
28.5	46 0	6 9	9 7	0 3	15 9	3 4		.	
28.1	49 4	7 1	10 2	3 7	16 3	3 7			.
27.0	56 9	7 9	10 4	3 0	16.8	4.7	75	41	76
28 7	47 7	6 7	12 8	5 0	21 5	4.2	78	65	52
28 6	44 4	6 1	10 6	3 8	14 4	3 7	74	45	69
27 0	53 7	7 8	10 6	5 0	14 2	4 6	74	45	66
19 5	80 4	10 9	6 5	2 0	17 2	4 4	87	68	56
20 1	68 0	10 3	9 3	0	17 4	5 8	86	68	46
19 6	82 3	10 9	8 6	0	17 7	5 7	86	70	52
30 0	43 8	6 5	11 6	4 0	21 7	4 I	86	68	58
29 0	47.1	6 9	10.2	0	21 8	4 9	87	68	52
30.0	45 9	7 1	10 5	1 5	22 0	5 1	86	74	59
30 3	44 7	6 6	11 3	4 0	23 3	3 8	87	67	53
29 8	44 4	7 0	10 3	1 0	22 2	5 0	67	68	50
29.5	49 9	7 3	10 6	0 5	24 B	5 0	80	76	58
18 4	93 1	11 7	9 7	6 0	18 0	4 5	92	61	73
18 3	84.6	10 4	15 8	15 2	18 2	4 2	92	61	71
19 3	96 0	10 9	9 6	1 0	20 6	5 0	86	70	64
29 8	52 2	7 3	11 9	2 5	24 6	4 6	60	74	69
29 3	51 6	7 6	11 3	5 0	26 0	4 4	80	75	60

4 REPORT ON PUNJAB-AMERICAN 4F.

for Season 1924-25 (Sample No 81).

I SIZE OF CROP

About 500 000 bales from 980,000 acres.

II. GRADER'S REPORT

Class	Fine Punjab American
Staple Length	[illegible] inch
Staple Strength	[illegible]
Regularity	—

III FIBRE PARTICULARS

1 Fibre Length Distribution (Balls Sorter) —

Mean group length in eighths of an inch	Percentage
2	0 2
3	2 0
4	4 9
5	11 6
6	25 5
7	37 6
8	14 5
9	3 3
10	0 4

2a. Mean Fibre-Length by Balls Sorter (inch)	0 81
2b Mean Fibre Length by Baer Sorter (inch)	0 80
3 Mean Ribbon Width (inch)	00070
4 Mean Convolutions per inch	103

IV SPINNING TESTS

1 *Treatment* —Normal *i e* Lattice Feeder, Crighton (twice) Hopper Scutcher (3 times), Card, Drawing (2 heads), Slubber, Inter, Rover, spun from single hank roving in King Frame No 1

2 *Spinning Master's Report* —A little leafy but free from seed and nep White.

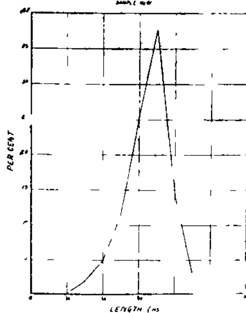
3 *Spinning Test Results* —See Table 4.

4 *Yarn Examination* —

—	Counts	Season			
		Sample No 81/1	Sample No 81/2	Sample No 81/3	Sample No 81/5
Evenness ..	20A	Fairly even to even	Fairly even to uneven.	Fairly even to even	Fairly even to even.
	20B	Fairly even to even	Fairly even to even	Fairly even to uneven	Fair
	20C	Fairly even to even	Fairly even to even	Fair	Fairly even to uneven.
Irregularities ..	20A	1 5	1 25	1 5	1 5
	20B	1 75	2 0	0 75	0 75
	20C	1 5	0 5	0 5	2.25

V REMARKS

From the results [illegible] it is evident that it may be regarded as a typical cotton [illegible] the test results of actual turns per inch are somewhat anomalous, [illegible] is not reflected in the strength results, [illegible]


4F 132425
PER CENT
LENGTH (ns

4 REPORT ON PUNJAB-AMERICAN 4F.

for Season 1924-25 (Sample No 81).

I SIZE OF CROP

About 510,000 bales from 1,980,000 acres

II GRADER'S REPORT

Class	Fine Punjab American
Staple Length	⅞—1 inch
Staple Strength	Good
Regularity	—

III FIBRE PARTICULARS

1 Fibre Length Distribution (Dolls Sorter) —

Mean group length in eighths of an inch	Percentage
2	2
3	2 0
4	4 9
5	11 6
6	25 5
7	37 8
8	14 5
9	3 1
10	0 4

2a	Mean Fibre Length by Dolls Sorter (inch)	0 81
2b	Mean Fibre Length by Baer Sorter (inch)	0 80
3	Mean Ribbon Width (inch)	00070
4	Mean Convolutions per inch	103

IV SPINNING TESTS

1 *Treatment* —Normal (i e Lattice Feeder Crighton twice Hopper Scutcher (3 times) Card Drawing (2 heads), Slubber, Inter, Rover, spun from single hank roving in Ring Frame No 1

2 *Spinning Master's Report* —A little leafy but free from seed and nep White

3 *Spinning Test Results* —See Table 4

4 *Yarn Examination* —

—	Counts	Season Sample No 81/1	Sample No 81/2	Sample No 81/3	Sample No 81/5
Evenness	[illegible]	Fairly even to even	Fairly even to uneven	Fairly even to even	Fairly even to even
	[illegible]	Fairly even to even	Fairly even to even	Fairly even to uneven	Fair
	[illegible]	Fairly even to even	Fairly even to even	Fair	Fairly even to uneven.
Strength	[illegible]	1 5	1 25	1 5	1 5
	[illegible]	1 75	2 0	0 75	0 75
	[illegible]	1 5	0 5	0 5	2 25

V REMARKS

[illegible] that it may be regarded as a typical cotton [illegible] of convolutions per inch are somewhat anomalous, [illegible] is not reflected in the strength results, [illegible]

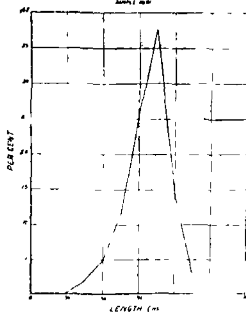


Fig 4

TABLE 4--SPINNING TEST RESULTS

1	2	[illegible]	4	5	6	7	8	9	10	11	12	13	14	15
				Waste Percentages				Spinning Particulars						
Sample No	Season	Counts Nominal	Weight of Sample	Blow Room Loss	Card Room Loss	Spinning Loss	Total Loss	Card Production per Hour	Ring Frame Production per spindle per 10 hrs	Ring Frame Yarn Breakages per oz Yarn	Ring Frame Front Roller Speed R P M	Ring Frame Front Roller Diameter Inch	Ring Frame Draft	Ring Frame turns per Inch
			lbs					lbs	ozs					
81/1	1924 25	20A	100	8 0	6 4	1 [illegible]	15 2	11 [illegible]	7 71	0 28	18[illegible]	7 8	5 27	16 85
81/2	,,	,,	10	7 9	8 2	1 0	16 3			0 11	180	7 8	5 27	16 85
81/3		,,	5	7 4	10 3	0 4	17 2			0 27	182	7 8	5 13	16 85
81/4	,,	,,	5	7 4	10 0	0 4	16 9			0 27	182	[illegible] 8	5 27	16 85
81/5	,,	,,	2	7 4	13 6	0 7	20 5			0 47	181	7/8	5 12	16 85
81/6	,,		2	7 0	13 7	0 7	20 2			0 23	181	7/8	5 26	16 85
83/1	,,	20B	100							0 22	170	7/8	5 27	17 98
81/2	,,	,,	10							0 16	170	7/8	5 30	17 98
81/3	,,	,,	5							0 18	171	7/8	5 27	17.98
81/4	,,	,,	5							0 13	171	7/8	5 41	17.98
81/5	,,	,,	2							0 24	171	7/8	5 23	17 98
81/6	,,	,,	2							0 23	171	7/8	5 26	17 96
81/1	,,	20C	100							0 15	158	7/8	5 27	19 05
81/2	,,	,,	10							0 12	158	7/8	5 39	19 05
81/3	,,	,,	5							0 14	157	7/8	5 54	19 05
81/4	,,	,,	5							0 13	157	7/8	5.54	19 05
81/5	,,	,,	2							0 21	159	7/8	5 25	19 05
81/6	,,	,,	2	[illegible]	[illegible]		[illegible]	[illegible]	[illegible]	0 23	159	7/8	5 26	19 05

FOR PUNJAB-AMERICAN 4F.

16	17	18	19	20	21	22	23	24	25
Yarn Test Results							Temperature.	Relative Humidity.	
Counts Actual	Lea Strength Lbs	Single Thread Strength Ozs	Single Thread Irregularity %	Single Thread Weakness Percentage	Turns per Inch Actual	Single Thread Extension %	Spinning Room °F	Spinning Room %	Testing Room %
19 8	58 0	8 5	14 2	9 5	16 0	4 8	73	75	61
18 8	72 2	9 0	13 1	4 5	20 0	4 7	73	75	62
18 9	67 7	10 1	16 6	13 5	19.7	7 5	79	82	64
17 1	68 3	10 2	12 1	6 0	19 7	7 2	79	82	62
19 8	59 3	8 7	10 6	1 5	18 4	4 8	79	84	57
20 0	61 8	8 8	10 7	4 5	17.3	5 1	79	84	61
19 5	71 6	9 1	13 4	6 5	16 5	4 8	73	75	64
19 0	75 7	8.8	13 0	5 5	20 7	4 0	73	75	52
19 1	77 3	10 6	16 0	9 0	20 5	7 5	79	84	63
19 8	73 2	10 1	12 6	3 0	21 4	7 4	79	84	64
19 7	71 2	10 2	8 0	0 5	18 6	5 7	79	84	65
18 9	78 9	10.7	5 6	2 5	17 4	5 3	79	84	63
19 2	77 4	11 1	11 0	4 0	17 4	4 8	79	82	64
19 4	75 8	10 3	9 4	0	21 8	4 3	79	82	52
19 5	78 2	11 6	9 6	0 5	22 1	7 8	79	84	65
20 1	69 6	10 9	12 0	5 0	22 7	7 5	79	84	52
19 9	76 5	10 2	9 7	1 5	18 9	5 1	79	83	64
18 5	84 7	11 8	9 1	2 0	18 6	6 0	79	83	64

5. REPORT ON PUNJAB-AMERICAN 285F.

for Seasons 1923-24 (Sample Nos. 3, 106).
1924-25 (Sample Nos. 85A, 85B).

I SIZE OF CROP

About 2 500 bales for 1925-26.

II GRADER'S REPORT.

	Season 1923 24	Season 1924 25
Class	Fine Punjab-American	Superfine Punjab-American
Colour	Creamy	Creamy.
Staple Length	15/16—1 inch	7/8—1 inch
Staple Strength	Good	Good
Regularity	Regular	Regular
Remarks	—	Not as good a cotton as 1923-24 cotton

III FIBRE PARTICULARS

1 Fibre Length Distribution (Balls Sorter) —

Mean group-length in eighths of an inch	Percentage		
	Sample No 3	Sample No 85A	Sample No. 85B.
2	0 2	0 4	1.1
3	0 9	2 4	2 5
4	1 9	3 7	3 7
5	3 5	6 6	7.7
6	6 9	11 2	13 4
7	12 3	21 2	27 8
8	21 2	28 9	30 2
9	27 5	19 8	10 0
10	18 2	5 3	3 6
11	7 4	0 8	—
2a Mean Fibre-Length by Balls Sorter (inch)	1 04	0 92	0 88
2b Mean Fibre-Length by Baer Sorter (inch)	1 05	0 93	0 88
3 Mean Ribbon Width (inch) ..	00067	00073	00070
4 Mean Convolutions per inch	145	140	124

IV SPINNING TESTS

1 [illegible]

2 [illegible]

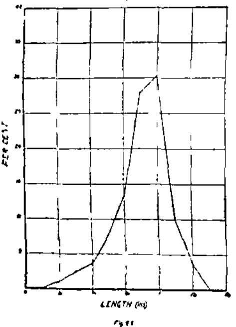
3 [illegible]

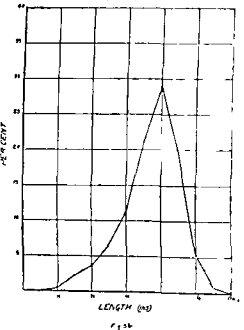
4 [illegible]

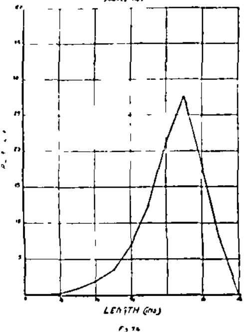
—	Counts. 3	Counts. 85	Season: Sample No. 3/1	Sample No. 3/2	Sample No. 3/3	Sample No. 3/5	Sample No. 85A/1	Sample No. 85B/1
Evenness ..	20	20	—	Even	Even	Even	Even	Even
	24	30	Fair	Even to fairly even	Even to fairly even	Even to fairly even	—	—
	[illegible]	40	Fairly even to uneven	Fairly even to uneven	Fairly even to uneven	Uneven	Fair	Fair
	[illegible]		Uneven	Fairly even to uneven	Uneven	Uneven to very uneven	Uneven	Fairly even to uneven
Neps ..	20	20	—	5 66	4 0	4.66	1 5	1.25
	24	30	3 33	4 66	3 0	2.33	2.0	2.25
	34	40	3 66	5 66	2.33	4.33	1 25	2.25
	47		3 33	5 0	2 66	2 66		

V REMARKS

Sample 85A differs from sample 85B of the same season in that the former was grown under good conditions for water supply while the latter was [illegible]


PER CENT
LENGTH (ins)


PR 285F 1924-25
PER CENT
LENGTH (ins)


PR 285F 1923-24
LENGTH (ins)

5. REPORT ON PUNJAB-AMERICAN 285F.

for Seasons 1923-24 (Sample Nos. 3, 106).
1924-25 (Sample Nos. 85A, 85B).

I SIZE OF CROP

About 2,500 bales for 1925-26.

II GRADER'S REPORT.

	Season 1923 24	Season 1924 25
Class	Fine Punjab-American	Superfine Punjab-American
Colour	Creamy	Creamy.
Staple Length	15/16—1 inch	$\frac{7}{8}$—1 inch
Staple Strength	Good	Good
Regularity	Regular	Regular
Remarks	—	Not as good a cotton as 1923-24 cotton

III FIBRE PARTICULARS

1 Fibre Length Distribution (Balls Sorter) —

Mean group-length in eighths of an inch	Percentage		
	Sample No 3	Sample No 85A	Sample No 85B
2	0 2	0 4	1.1
3	0 9	2 3	2 5
4	1 9	3 7	3 7
5	3 5	6 6	7 7
6	6 9	11 2	13 4
7	12 3	21 2	27 8
8	21 2	28 9	30 2
9	27 5	19 6	10 0
10	18 2	5 3	3 6
11	7 4	0 8	—
2a Mean Fibre-Length by Balls Sorter (inch)	1 04	0 92	0 88
2b Mean Fibre-Length by Baer Sorter (inch)	1 05	0 93	0 89
3 Mean Ribbon Width (inch)	00067	00073	00070
4 Mean Convolutions per inch	145	140	124

IV SPINNING TESTS

1 [illegible]

2 [illegible]

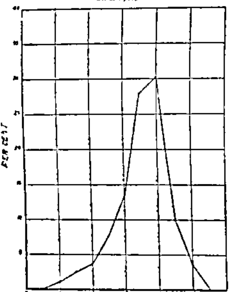
3 [illegible]

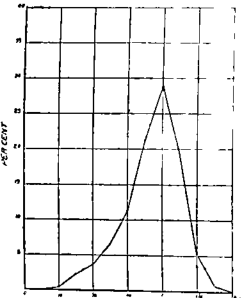
4 [illegible]

—	Counts. 3 /	85	Season.					
			Sample No. 3/1	Sample No 3 2	Sample No 3 3	Sample No 3/5	Sample No. 85A/1	Sample No 85B/1
Evenness	20	20	—	Even	Even	Even	Even	Even
	24	30	Fair	Even to fairly even	Even to fairly even	Even to fairly even	—	—
	34	40	Fairly even to uneven	Fairly even to uneven	Fairly even to uneven	Uneven	Fair	Fair
	40		Uneven	Fairly even to uneven	Uneven	Uneven to very uneven	Uneven	Fairly even to uneven
Neppiness	20	20	—	5 66	4 0	4 66	1.5	1 25
	24	30	3 33	4 66	5 0	2 33	2 0	2 25
	34	40	3 66	5 66	2.33	4.33	1.25	2 25
	40		3 33	5 0	2 66	2 66		

V REMARKS

Sample 85A differs from sample 85B of the same season in that the former was grown under good conditions for water-supply while the latter was grown under adverse con[illegible] quite so good as for 1923-24 [illegible]
A notable instance of differen[illegible]
sam[illegible] 85A/3 and 85B/3 [illegible]
single thread strength. Yet [illegible]
samples of each it appears th[illegible]


PER CENT
LENGTH (ins)


PER CENT
LENGTH (ins)

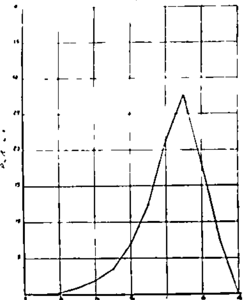

LENGTH (ins)

TABLE 5—SPINNING TEST RESULTS

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
				Waste Percentages				Spinning Particulars						
Sample No	Season	Counts Nominal	Weight of Sample	Blow Room Loss	Card Room Loss	Spinning Loss	Total Loss	Card Production per Hour	Ring Frame Production per Spindle per 10 hrs	Ring Frame Yarn Breakages per oz Yarn	Ring Frame Front Roller Speed R P M	Ring Frame Front Roller Diameter Inch	Ring Frame Draft	Ring Frame turns per Inch
			lbs					lbs	ozs					
106/1	1923-24	20	100	10 3	9 6	0 8	19 5			0 08	182	7/8	4 26	16 85
106/2	"	"	10	10 2	10 5	0 8	20 2			0	182	7/8	4.17	16.85
106/3	"	"	10	10 5	10 0	0 8	20 0			0	182	7/8	4 08	16.85
106/1	"	30	100							0 13	141	7/8	6 45	21.86
106/2	"	"	10							0 31	141	7/8	6 45	21 86
106/3	"	"	10							0 37	141	7/8	6 41	21 86
106/1	"	40	100					11 6	2 39	0 09	115	7/8	8 71	26 97
106/2	"	"	10						"	0 12	114	7/8	8 33	26 97
106/3	"	"	10					"	"	0 25	114	7/8	8 39	26 97
65A/1	1924-25	20	7	4 3	9 9	0 6	14 3		"	0 09	181	7/8	4 26	16 85
65A/2	"	"	7	5 1	9 8	0 6	14 9	"	"	0 09	181	7/8	4 26	16 85
65B/1	"	"	7	4 0	10 3	0 2	14 0		"	0 06	182	7/8	4.17	16 85
65B/2	"	"	7	4 6	10 2	0 3	13 9	"	"	0 09	182	7/8	4.17	16 85
65A/1	"	30	7	"	"	"		"	"	0 09	140	7/8	6.45	21.86
65A/2	"	"	7	"	"	"	"	"	"	0 06	140	7/8	6 45	21.86
65B/1	"	"	7		"		"	"	"	0 06	141	7/8	6 41	21.86
65B/2	"	"	7	"	"	"	"	"	"	0 06	141	7/8	6.25	21.86
65A/1	"	40	7				"	"	"	0 06	114	7/8	8 71	26 97
65A/2	"	"	7		"		"	"	"	0 09	114	7/8	8 55	26 97
65B/1	"	"	7	"		"	"	"	"	0 06	113	7/8	8.39	26 97
65B/2	"	"	7	"	"	"	"	"	"	0 06	113	7/8	8 28	26 97

FOR PUNJAB-AMERICAN 285 F

16	17	18	19	20	21	22	23	24	25
Yarn Test Results							Temperature	Relative Humidity	
Counts Actual	Lea Strength Lbs	Single Thread Strength Ozs	Single Thread Irregularity %	Single Thread Weakness Percentage.	Turns per Inch Actual	Single Thread Extension %	Spinning Room °F.	Spinning Room %	Testing Room %
20 0	91 3	11 7	10 3	1 0	17.8	6.4	85	63	55
19 1	100 1	12.4	9 1	1 5	17 6	6 4	84	69	55
19 4	100 0	12 8	10 7	2 5	18 3	6 8	84	69	59
29 0	54 6	8 2	11 8	1.5	23.1	5 8	87	65	57
30 3	52 2	8 0	12 4	4 5	23.1	5 7	85	61	58
29 6	55 4	8 0	9 4	2 0	22.6	5.8	85	61	60
39 4	34 3	5 8	14 3	6.0	28 2	5.2	83	64	55
38 2	36 3	6 1	13 9	4.5	28 2	5 3	83	63	54
39 5	36 6	5 8	13 3	5 5	28 8	5 2	83	63	59
18 9	97.4	12 6	9 1	1 0	17 2	5 0	85	66	58
19 1	96 7	10 4	9 6	1.5	17 3	4 1	85	66	52
19 2	93 2	11 9	8 4	0 5	16 4	5 7	86	70	58
19 3	84 6	12 2	7.3	0	17.1	4 6	86	70	50
28 7	57 4	7.5	11.9	5 5	21.5	4 2	86	62	60
28 9	54 7	7 3	10 9	4 0	22 1	3 3	86	62	48
30 0	50 2	7 7	9 5	2 0	20 7	4 9	86	70	5[illegible]
29 4	51 6	7.7	9 5	2 5	21.3	4.2	86	70	52
37 5	37 4	5 5	10 2	3.5	25 6	3 2	86	60	55
37.6	36 7	5.6	11 5	4 5	25 3	3 2	86	60	56
38.8	33 4	5.7	12.5	4 0	25 9	4.7	86	70	55
40.1	32 8	5.6	12.9	3 0	24.2	4.1	86	70	52

TABLE 5—SPINNING TEST RESULTS

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
				Waste Percentages				Spinning Particulars						
Sample No	Season	Counts Nominal	Weight of Sample	Blow Room Loss	Card Room Loss	Spinning Loss	Total Loss	Card Production per Hour	Ring Frame Production per Spindle per 10 hrs.	Ring Frame Yarn Breakages per oz Yarn	Ring Frame Front Roller Speed R P M	Ring Frame Front Roller Diameter Inch	Ring Frame Draft	Ring Frame turns per Inch.
			lbs					lbs	ozs					
106/1	1923-24	20	100	10 3	9 6	0 8	19 8			0 08	182	7/8	4 26	16 85
106/2	,,	,,	10	10 2	10 5	0 8	20 2			0	182	7/8	4 17	16 85
108/3	,,	,,	10	10 5	10 0	0 8	20 0			0	182	7/9	4 08	16.85
106/1	,,	30	100							0 13	141	7/8	6.45	21 86
106/2	,,	,,	10							0 31	141	7/8	6 45	21.86
106/3	,,	,,	10							0 37	141	7/8	6 41	21 86
106/1	,,	40	100					11 6	2 39	0 09	115	7/8	8 71	26 97
106/2	,,	,,	10							0 12	114	7/8	8.39	26 97
106/3	,,	,,	10							0.25	114	7/8	8 39	26 97
85A/1	1924 25	20	7	4 3	9 9	0 6	14 3		..	0 09	181	7/8	4 26	16 85
85A/2	,,	,,	7	5 1	9 8	0 6	14 9	.	..	0 09	191	7/8	4 26	16 85
85B/1	,,	,,	7	4 0	10 3	0 2	14.0	.	.	0 06	182	7/8	4 17	16 85
85B/2	,,	,,	7	4 0	10 2	0 3	13 9	..	..	0 09	182	7/8	4 17	16 85
85A/1	,,	30	7	.	.	..	..	..	..	0.09	140	7/8	6 45	21.86
85A/2	,,	,,	7	..		..	..	.	..	0 06	140	7/8	6 45	21.86
85B/1	,,	,,	7	..	..	..		..	..	0.06	141	7/8	6 41	21.86
85B/2	,,	,,	7	..	..	..	..	..	..	0 06	141	7/8	6.25	21 86
85A/1	,,	40	7	..	..	.	..	..	..	0 06	114	7/8	8.71	26 97
85A/2	,,	,,	7	..	.	..	.	..	..	0 09	114	7/8	8 55	26 97
85B/1	,,	,,	7	..	..	.	..	.	..	0 06	113	7/8	8.39	26.97
85B/2	,,	,,	7	..	..	..	..	..	..	0 06	113	7/8	8.28	26 97

FOR PUNJAB-AMERICAN 285 F

[illegible]	17	18	19	20	21	22	23	24	25
Yarn Test Results							Temperature	Relative Humidity	
…nts Actual	… Strength Lbs	Single Thread Strength Ozs	Single Thread Irregularity %	Single Thread Weakness Per centage	Turns per Inch Actual	Single Thread Extension, %	Spinning Room °F.	Spinning Room %	Testing Room %
20 0	91 3	11 7	10 3	1 0	17 8	6 4	85	63	55
19 1	100 1	12 4	9 1	1 5	17 6	6 4	84	69	55
19 4	100 0	12 8	10 7	2 5	18 3	6 8	84	69	59
29 0	54 6	8 2	11 8	1 5	23 1	5 8	87	65	57
30 3	52 2	8 0	12 4	4 5	23 1	5.7	85	61	58
29 6	55 4	8 0	9 4	2 0	22.6	5.8	85	61	60
39 4	34 3	5 8	14 3	6.0	28 2	5 2	83	64	55
38 2	36 3	6 1	13 9	4 5	28.2	5.3	83	63	54
39 5	36 6	5.8	13 3	5 5	28 8	5.2	83	63	59
18 9	97.4	12 6	9 1	1 0	17 2	5 0	85	66	59
19 1	96 7	10 4	9 6	1.5	17 3	4 1	85	66	52
19 2	93 2	11.9	8 4	0 5	16 4	5 7	86	70	58
19 3	84 6	12.2	7.3	0	17.1	4 6	86	70	50
28 7	57.4	7.5	11.9	5 5	21 5	4 2	88	62	60
28 9	54 7	7 3	10 9	4 0	22 1	3 3	86	62	48
30 0	50 2	7.7	9 5	2 0	20 7	4.9	86	70	55
29 4	51.6	7.7	9.5	2 5	21 3	4.2	86	70	52
37.5	37 4	5 5	10.2	3 5	25 6	3 2	86	60	55
37.6	36 7	5.6	11.5	4 5	25 3	3.2	86	60	55
38.8	33 4	5 7	12 5	4.0	25 9	4.7	88	70	55
40 1	32.8	5.6	12.9	3 0	24.3	4 1	88	70	52

TABLE 5a—SPINNING TEST RESULTS

1		3	4	5	6	7	8	9	10	11	12	13	14	15
				WASTE PERCENTAGES				SPINNING PARTICULARS						
Sample No	Season	Counts Nominal	Weight of Sample	Blow Room Loss	Card Room Loss	Spinning Loss	Total Loss	Card Production per Hour	Ring Frame Production per Spindle per 10 hrs	Ring Frame Yarn Breakages per of Yarn	Ring Frame Front Roller Speed R P M.	Ring Frame Front Roller Diameter Inch	Ring Frame Draft	Ring Frame turns per inch.
3/2	1923 24.	20	lbs 10	11 1	9 1	1 1	20 7			0 09	169	7/8	4 10	17 58
3/3	"	"	5	9 1	10 2	1 8	19 7			0 68	165	7/8	4 33	17 58
3/4	"	"	5	10 3	10 5	1 5	20 0			0 25	165	7/8	4 33	17.58
3/5	"	"	2	10 7	11 7	1 5	22 3			0 64	165	7/8	4.41	17 58
3/6	"	"	2	10 9	11 7	1 6	22 4			0 16	165	7/8	3 77	17.58
3/1	"	28	100	9 1	8 8	1 0	17 9			0 54	134	7/8	5.41	21.29
3/2	"	"	10							0 19	130	7/8	5 69	21.29
3/3	"	"	5							0 25	138	7/8	6 07	21.29
3/4	"	"	5	.			.			0 32	138	7/8	6 07	21 29
3/5	"	"	2		.	.				0 16	138	7/8	6 08	21.29
3/6	"	"	2	.			..	.	.	0 48	138	7/8	5.27	21 29
3/1	"	34	100	..			..	.	.	0 40	107	7/8	6 62	23 80
3/2	"	"	10	..	.	..	..	..	..	0.16	124	7/8	6 90	23 80
3/3	"	"	5	..	..	.	.	..	..	0 12	114	7/8	7 08	23 80
3/4	"	"	5	..	..	..	..	..	..	0.19	114	7/8	7.09	23 80
3/5	"	"	2	..	..	..	..	.		0 32	115	7/8	7.42	23 80
3/6	"	"	2	.	..	..	..		.	0 64	115	7/8	6.45	23 80
3/1	"	40	100	..	..	..	..	..	..	0 38	99	7/8	7.80	26.97
3/2	"	"	10	..	..	..	..	.	..	0.25	104	7/8	8.23	26.97
3/3	"	"	5	.	..	..	..	..	..	0.31	102	7/8	8 50	26.97
3/4	"	"	5	..	..	..	..	..	.	0 19	102	7/8	8 33	26 97
3/5	"	"	2	..	..	.	..	..	..	0	102	7/8	8.66	26 97
3/6	"	"	2	..	..	..	..	..	..	0 32	102	7/8	7 65	26.97

FOR PUNJAB-AMERICAN 285F.

16	17	18	19	20	21	22	23	24	25
Yarn Test Results							Temperature	Relative Humidity.	
Counts Actual	Lea Strength Lbs	Single Thread Strength Ozs	Single Thread Irregularity %	Single Thread Weakness Per centage	Turns per Inch Actual	Single Thread Extension %	Spinning Room °F.	Spinning Room %	Testing Room %
20 6	89 7	11 2	5 9	0	21 3	6 0	75	45	48
19 9	68 8	11 9	9 0	6 0	22 0	8 2	82	41	46
19 6	100 3	11 0	7 8	2 8	21 4	5 4	82	41	50
20 1	86 5	11 9	5 3	0	21 7	6 7	81	44	68
19 6	107 0	13 2	6 5	0	21.6	6 8	81	44	67
27 9	66 6	8 8	8 3	1 2	15 9	5 6	..	..	77
26.9	56 1	7 5	10 6	1 2	21.5	5 1	78	50	59
28 J	56 5	8 4	7 7	0 8	25 0	5 2	82	41	44
28 1	63 1	7.9	8 7	2 4	23 4	4.7	82	41	50
27.2	67 4	9 0	9 7	1 3	23 8	5 6	81	44	63
28 6	67 0	8 6	6 4	0	23 4	5 7	81	44	67
34 9	49.4	6.0	10 0	2 0	17.4	3 7	78	66	74
34 0	43 9	6 0	13 5	4 0	22 9	4.7	77	47	49
33 3	48 7	7.6	7 3	1.2	25 3	5 5	81	50	53
32 5	52.6	7 6	9 4	2.8	25 8	5 2	81	50	64
33 9	49 6	7 2	9 9	2.5	26 9	4 7	83	68	63
34 7	50.4	6 8	9 7	1.3	28 7	4.8	83	68	66
39 9	38.4	5 5	13 5	7 4	20 0	3 8	78	66	73
40 7	33 5	5 2	12.5	3 6	23 5	4.3	60	48	54
39 2	34 5	5 6	14.4	2.4	26.6	4 5	81	50	54
40 5	34 8	6.1	8 9	3 2	27.7	4.7	81	50	4d
40 2	39 3	5 6	14.5	6.3	28 6	4.0	63	65	55
40 1	41.1	6 0	12.1	0 6	28 7	4.7	83	65	70

TABLE 5a—SPINNING TEST RESULTS

1		3	4	5	6	7	8	9	10	11	12	13	14	15
				Waste Percentages				Spinning Particulars						
Sample No	Season	Counts Nominal	Weight of Sample	Blow Room Loss	Card Room Loss	Spinning Loss	Total Loss	Card Production per Hour	Ring Frame Production per Spindle per 10 hrs	Ring Frame Yarn Breakages per oz Yarn	Ring Frame Front Roller Speed, R P M	Ring Frame Front Roller Diameter Inch	Ring Frame Draft	Ring Frame turns per Inch.
			lbs											
3/2	1923-24	20	10	11 1	9 1	1 1	20 7			0 09	169	7/8	4 10	17 58
3/3	„	„	5	9 1	10 2	1 8	19 7			0 68	165	7/8	4 33	17 58
3/4	„	„	5	10 9	10 5	1 5	20 0			0 25	165	7/8	4.33	17.55
3/5	„	„	2	10 7	11 7	1 5	22 3			0 64	165	7/8	4.41	17 58
3/6	„	„	2	10 9	11 7	1 6	22 4			0 16	165	7/8	3.77	17.58
3/1	„	28	100	9 1	8 8	1 0	17 9			0 54	134	7/8	5.41	21 29
3/2	„	„	10							0 19	130	7/8	5 69	21 29
3/3	„	„	5							0 25	138	7/8	6 07	21 29
3/4	„	„	5	.						0 32	138	7/8	6 07	21.29
3/5	„	„	2	.		.				0 16	138	7/8	6 08	21.29
3/6	„	„	2	.	.	.	.	.	.	0.48	138	7/8	5 27	21 29
3/1	„	34	100			.	.	..	.	0 40	107	7/8	6 62	23 80
3/2	„	„	10	..	.	.	.	..	.	0 16	124	7/8	6.90	23 80
3/3	„	„	5	..	..	.	..	.	..	0 12	114	7/8	7 08	23 80
3/4	„	„	5	..	..	..	..	..	..	0 19	114	7/8	7.08	23 80
3/5	„	„	2	..	..	..	..	.	.	0 32	115	7/8	7.42	23 80
3/6	„	„	2	.	..	..	..	..	..	0 64	115	7/8	6.45	23 80
3/1	„	40	100	..	..	..	..	..	..	0 38	99	7/8	7 80	26 97
3/2	„	„	10	.	..	..	..	.	..	0 25	104	7/8	8.23	26 97
3/3	„	„	5	..	..	..	..	..	..	0 31	102	7/8	8.50	26 97
3/4	„	„	5	..	..	..	..	..	..	0.19	102	7/8	8.33	26 97
3/5	„	„	2	..	..	..	..	.	..	0	102	7/8	8.66	26 97
3/6	„	„	2	..	..	..	..	..	.	0 32	102	7/8	7.65	26.97

FOR PUNJAB-AMERICAN 285F.

16	17	18	19	20	21	22	23	24	25
Yarn Test Results							Temperature	Relative Humidity	
Counts Actual	Lea Strength Lbs	Single Thread Strength Ozs	Single Thread Irregularity %	Single Thread Weakness Percentage	Turns per Inch Actual	Single Thread Extension %	Spinning Room °F	Spinning Room %	Testing Room %
20 6	89 7	11 2	5 9	0	21 3	6 0	75	45	48
19 9	68 8	11 9	9 0	6 0	22 0	6 2	82	41	46
19 8	100 3	11 0	7 8	2 8	21.4	5.4	82	41	50
20 1	86 5	11 9	5 3	0	21 7	6.7	81	44	66
19 6	107 0	13 2	6 5	0	21.6	6 8	81	44	67
27 9	66 6	8 8	8 3	1 2	15 9	5.6	.	..	77
28 9	56 1	7 5	10.6	1 2	21 5	5.1	75	50	59
28 3	56 5	8 4	7.7	0 8	25 0	5 2	82	41	44
28 1	63 1	7.9	8 7	2 4	23.4	4.7	82	41	50
27 2	67 4	9 0	9 7	1.3	23 8	5 6	81	44	63
28 6	67 0	8 6	6 4	0	23 4	5.7	81	44	67
34 3	49.4	6 0	10 0	2 0	17.4	3.7	78	66	74
34.0	43 9	6.0	13 5	4 0	22.9	4.7	77	47	49
33 3	48 7	7.6	7 3	1.2	25 3	5 5	81	50	53
32 5	52 6	7 6	9 4	2 8	25 8	5 2	81	50	64
33 9	49 6	7 2	9.9	2 5	26 9	4 7	83	68	63
34 7	50 4	6 8	9.7	1 3	28 7	4 8	63	68	66
39 9	38.4	5.5	13 5	7 4	20 0	3 8	78	66	73
40 7	33 5	5 2	12 5	3 6	23 5	4.3	80	48	54
39 2	34.5	5.6	14.4	2 4	26 6	4.5	81	50	54
40 5	34 8	6.1	8 9	3 2	27.7	4 7	81	50	46
40 2	39 3	5 6	14.5	6.3	29.6	4.0	63	65	55
40 1	41.1	6.0	12.1	0.8	28.7	4.7	83	65	70

6. REPORT ON PUNJAB-AMERICAN 289 F

for Season 1924-25 (Sample No. 80).

I SIZE OF CROP

About 2,500 bales for 1925-26

II GRADER'S REPORT

Class	Barely Fine Punjab-American
Staple Length	1 1/16—1⅛ inch
Staple Strength	Good (strong)
Regularity	Regular

III FIBRE PARTICULARS

1 Fibre Length Distribution (Balls Sorter) —

Mean group length in eighths of an inch	Percentage
2	0
3	1 5
4	2 3
5	4 6
6	7 9
7	16 0
8	25 4
9	24 2
10	12 8
11	4 1
12	1 [illegible]

2a	Mean Fibre-Length by Balls Sorter (inch)	1 01
2b	Mean Fibre Length by Baer Sorter (inch)	1 02
3	Mean Ribbon Width (inch)	00069
4	Mean Convolutions per inch	122

IV SPINNING TESTS

1. *Treatment* —Normal i e , Lattice Feeder, Crighton (twice) Hopper, Scutcher (3 times), Card, Drawing (2 heads), Slubber, Inter, Rover, spun from single hank roving in Ring Frame No 1
2. *Spinning Master's Report* —Fairly free from seed but leafy and very neppy
3. *Spinning Test Results* —See Table 6

Yarn Examination —

—	Counts	Season			
		Sample No 80/1	Sample No 80/2	Sample No 80/3	Sample No 80/5
Evenness	20	Even to fairly even	Fair	Even to fairly even	Fair
	30	Fairly even to uneven	Fairly even to uneven	Fairly even to uneven	Fairly even to uneven
	40	Very uneven	Very uneven	Uneven to very uneven	Very uneven
Neppiness	20	5 75	5 5	4 0	5 25
	30	6 75	5 75	4 5	5 25
	40	7 0	4 25	4 0	4 0

V REMARKS

This cotton gives a rather weak 40's and is really suitable for warp yarn of moderate twist up to 34/36's The test results for actual turns per inch are somewhat anomalous, twist being excessive for 80/1, 80/2, 80/3 and 80/6 , although this excess is not reflected in the strength results.

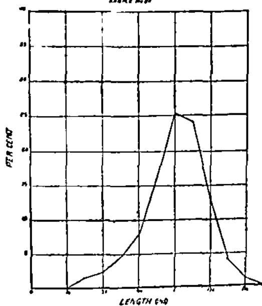

PER CENT
LENGTH

TABLE 6—SPINNING TEST RESULTS

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
				Waste Percentages				Spinning Particulars						
Sample No	Season	Counts Nominal	Weight of Sample	Blow Room Loss	Card Room Loss	Spinning Loss	Total Loss	Card Production per Hour	Ring Frame Production per Spindle per 10 hrs	Ring Frame Yarn Breakages per oz Yarn	Ring Frame Front Roller Speed R P M	Ring Frame Front Roller Diameter Inch	Ring Frame Draft	Ring Frame turns per Inch
			lbs					lbs	ozs					
80/1	1924 25	20	100	9 0	8 1	1 2	17 4			0 27	181	7/8	4 68	16 85
80/2	"	"	10	8 7	9 0	0 4	17 2			0 33	181	7/8	4 75	16 8
60/3	"	"	5	8 7	10 4	1 0	19 0			0 28	180	7/8	4 66	16 85
80/4	"	"	5	9 2	10 1	0 9	19 1			0 28	180	7/8	4 55	16 85
80/5	"	"	2	9 4	12 6	0 7	21 3			0 48	181	7/8	4.55	16 85
80/6	"	"	2	9.4	13 9	0.7	22 5	.		0 36	181	7/8	4 64	16 85
60/1	"	30	100					.	.	0 21	140	7/8	6 98	21 86
80/2	"	"	10					.	.	0 11	140	7/8	7.14	21.86
80/3	"	"	5	..		..		..	..	0 23	140	7/8	6.83	21.86
60 4	"	"	5	..	.	.	.	..	.	0 18	140	7/8	6.68	21 86
80/5	"	"	2	..	.	.	..	.	..	0 24	140	7/8	6 89	21 86
60/6	"	"	2	.	..	..	.		.	0 24	140	7/8	6 89	21 86
60/1		40	100	.	..	.	..	11.9	2 42	0 39	115	7/8	9.11	26.9
80/2	"	"	10	..	.	..	..		..	0 26	115	7/8	9.29	26.9
60/3	"	"	5	.	..	.	..	.	..	0 23	114	7/8	9.11	26 9
6 /4	"	"	5	..	..	..	.	.	..	0.23	114	7/8	9.11	26 9
6K 5	.	"	2	..	.	..	.	.	.	0.36	113	7/8	9.47	26 9
60/6	"	"	2	.	..	..	.	..	.	0.12	113	7/8	9.66	26 9

FOR PUNJAB-AMERICAN 289F

16	17	18	19	20	21	22	23	24	25
Yarn Test Results							Temperature	Relative Humidity	
Counts Actual	Lea Strength Lbs	Single Thread Strength Ozs	Single Thread Irregularity %	Single Thread Weakness Percentage	Turns per Inch Actual	Single Thread Extension %	Spinning Room °F.	Spinning Room %	Testing Room %
21 1	67 2	11 4	9 0	2 0	22.6	6 6	74	72	61
19 7	69 9	12 1	7 4	2 5	21.0	6.5	74	72	61
20 0	100 1	12.2	7 9	1.0	16 7	6.3	74	79	63
19 7	103 8	13.1	8 1	0 5	16 9	6.4	74	79	58
19 9	102 7	12 6	8 3	1 0	21 7	6 2	74	78	51
19 5	106 8	12 3	7.4	0	21.8	5 8	74	78	67
29 9	51 8	7 7	13 2	7 0	26 6	6 0	76	74	59
29 4	49 9	7 6	10 1	6 0	27.2	6 0	76	74	61
28.6	60 3	8 6	10 8	2.5	22.4	5 8	74	75	64
28 6	60 3	9 0	11.0	2 0	22.7	6 0	74	75	65
28 0	65.4	8 2	9 9	3 0	27.4	5 5	76	78	54
28 6	61 1	8 5	11 8	3 5	27.2	5 9	76	78	64
38.4	34 1	5.7	15.2	10 5	30 8	5.5	74	72	60
38 3	34 0	5 7	13 4	8 0	30 8	5 6	74	72	46
39 1	36 4	5 5	16 5	9.5	27.9	4.5	73	75	55
40 7	33 3	6 5	12.1	5 0	27.4	5 4	73	75	53
37.5	40 6	6 1	16 0	9 5	31 2	5 3	73	77	73
39.8	34.7	5 8	13.3	6 0	31.1	4 6	73	77	64

7. REPORT ON CAWNPORE-AMERICAN C.A. 9

for Season 1924-25 (Sample No. 77).

I. SIZE OF CROP

Particulars not available

II GRADER'S REPORT.

Class Staple Length Staple Strength Regularity	Fine Punjab-American 13/16 inch Good —

III FIBRE PARTICULARS

1 Fibre-Length Distribution (Balls Sorter) —

Mean group-length in eighths of an inch	Percentage
2	0
3	1 5
4	2 5
5	6 5
6	15 0
7	33 5
8	31 4
9	8 7
10	0 9

2a Mean Fibre Length by Balls Sorter (inch)	0 89
2b. Mean Fibre Length by Baer Sorter (inch)	0.90
3 Mean Ribbon Width (inch)	00065
4 Mean Convolutions per inch	144

IV SPINNING TESTS

1 *Treatment.*—Normal *i e*, Lattice Feeder, Crighton (twice), Hopper, Scutcher (3 times), Card, Drawing (2 heads Slubber, Inter, Rover, spun from single bank roving in Ring Frame No 1.

2 *Spinning Master's Report* —Too much fine leaf, and stained, colour creamy white

3. *Spinning Test Results* —See Table 7

4 *Yarn Examination* —

—	Counts.	Season.			
		Sample No. 77/1	Sample No. 77/2	Sample No 77/3	Sample No 77/5
Evenness	20	Even to fairly even	Even to fairly even	Even to fairly even	Even to fairly even
	30	Fair	Even to fairly even	Fair	Fairly even to uneven
	40	Fairly even to uneven	Uneven	Uneven to very uneven	Uneven to very uneven
Neppiness	20	2 75	1.25	0 75	1.25
	30	3 0	1 0	1 0	0 75
	40	1.5	0 75	0.75	1.0

V. REMARKS.

This cotton gives a weak 40's, and is really not suitable for warp yarn above 30's when spun with moderate twist The test results for actual turns per inch are somewhat anomalous, twist being excessive for 77/1, 77/2, 77/5 and 77/6, although this excess is not reflected in the strength results.

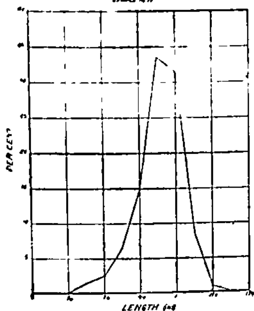

PERCENT
LENGTH

TABLE 7—SPINNING TEST RESULTS

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
				WASTE PERCENTAGES				SPINNING PARTICULARS.						
Sample No	Season	Counts Nominal	Weight of Sample	Blow Room Loss.	Card Room Loss	Spinning Loss	Total Loss	Card Production per Hour	Ring Frame Production per Spindle per 10 hrs	Ring Frame Yarn Breakages per oz Yarn	Ring Frame Front Roller Speed R P M	Ring Frame Front Roller Diameter Inch	Ring Frame Draft.	Ring Frame turns per Inch
			lbs					lbs	ozs					
77/1	1924 25	20	100	6 6	6 9	1 1	14 0			0 22	184	7/8	4 54	16 85
77/2	,	,	10	6 9	7 6	0 7	14 5			0 20	184	7/8	4.44	16.85
77/3	..	.	5	6 9	9 3	0 6	16 0			0 71	183	7/8	4.46	16 85
77/4	..	.	5	6 9	9 0	0 6	15 8			0 49	183	7/8	4 46	16.85
77/5	..	..	2	7 8	10 4	1 6	18 7			0 46	182	7/8	4 46	16.85
77/6	..	.	2	8 4	10 7	1 7	19 5			0 58	182	7/8	4 46	16.85
77/1	..	30	100							0 28	142	7/8	6 89	21 86
77/2	..	..	10		..					0 15	142	7/8	6.83	21.86
77/3	..	..	5	.	.					0 22	141	7/8	6 83	21.86
77/4	..	..	5	..		.			.	0 18	141	7/8	6 83	21.86
77/5	..	..	2			.			..	0 11	140	7/8	6 77	21.86
77/6	..	..	2	.				.	.	0 23	140	7/8	7 00	21 86
77/1	.	40	100	.				11.8	2.45	0 79	115	7/8	9 31	26 97
77/2	..	..	10	..					..	0 61	115	7/8	9 00	26 97
77/3	..	..	5	.	.	.	.	.	..	0 49	114	7/8	8 83	26 97
77/4	..	..	5	..	..	..	..	..	..	0.40	114	7/8	8 83	26 97
77/5	..	..	2	..	..	..	.	..	..	0.57	116	7/8	8.83	26 97
77/6	..	..	2	..	..	..	.	..	..	0 46	116	7/8	9 64	26.97

FOR CAWNPORE - AMERICAN C A O

16	17	18	19	20	21	22	23	24	25
[illegible]							Temperature.	Relative Humidity.	
Counts Actual	Lea Strength lbs	[illegible]	[illegible]	[illegible]	Turns per inch Actual	[illegible]	Spinning Room °F	Spinning Room %	Testing Room %
19 1	67 3	1. 0	8 6	1 5	19 6	5 0	82	76	67
19 2	61 5	1. 0	9 7	2 0	22 4	4 0	82	76	45
19 4	61 7	10 4	10 3	1 5	17 8	3 6	79	76	54
19 5	76 2	12 2	9 3	1 5	17 7	6.1	79	76	62
19 0	63 9	10 7	9 8	3 5	21.6	5 4	81	83	51
18 1	95 0	11 4	9 8	1 5	21.1	5 4	81	83	52
29 2	47 0	7 1	13 3	7 5	25 4	3 2	79	75	56
29.2	48 1	6 9	8 9	1 0	26 4	3 5	79	75	56
29 9	45 3	6 5	10 1	1 0	22 7	3.2	74	68	55
29 8	44 0	7 3	11 0	2 5	21.1	5 3	74	68	54
29 2	50 7	6 4	10 1	1.0	27.2	4 8	82	79	46
27.9	54 0	7 6	13.5	1.0	25 9	5 7	82	79	56
40 0	27 8	4.7	12 6	8 0	31 1	3 0	80	79	57
38 4	31 9	5 3	9 4	1 0	30 3	2.8	80	79	52
39 0	32 4	5 0	14 0	6 5	27 0	4.5	78	73	65
39 0	30 9	4.7	12 6	4 0	25.8	4 1	78	73	46
38 8	35 1	5 0	15 8	11.0	30 9	4 5	81	78	49
37.9	35 8	5 5	14 4	6 5	31 2	5 0	81	78	60

8. REPORT ON CAWNPORE K. 22

for Season 1924-25 (Sample No. 79).

I. SIZE OF CROP.

Particulars not available.

II. GRADER'S REPORT.

Class	Fully Good Bengal
Colour	Stained
Staple Length	9/16 inch
Staple Strength	Fair
Regularity	Regular

III FIBRE PARTICULARS.

1 Fibre-Length Distribution (Balls Sorter)—

Mean group length in eighths of an inch	Percentage
2	0 2
3	1 5
4	4 2
5	12 5
6	32 2
7	35 9
8	11 0
9	2 5

2a	Mean Fibre-Length by Balls Sorter (inch)	0 80
2b	Mean Fibre Length by Baer Sorter (inch)	0 78
3	Mean Ribbon Width (inch)	.00070
4	Mean Convolutions per inch	96

IV SPINNING TESTS

1. *Treatment* —Normal *i e*, Lattice Feeder, Crighton (twice), Hopper, Scutcher (3 times), Card, Drawing (2 heads), Slubber, Inter, Rover, spun from a single hank roving in Ring Frame No 1.

2 *Spinning Master's Report* —Badly stained, leafy, and a trifle seedy, gave off unusual amount of fly in the blow room

3. *Spinning Test Results* —See Table 8

4 *Yarn Examination* —

—	Counts	Season			
		Sample No 79/1	Sample No 79/2	Sample No 79/3	Sample No 79/5
Evenness ..	10	Even to fairly even	Fairly even to uneven	Fairly even to uneven	Even to fairly even
	12	Fair	Fairly even to uneven	Fairly even to uneven	Fairly even to uneven
	12B	Fairly even to uneven	Fairly even to uneven	Uneven	—
Neppiness ..	10	1 75	1.75	1 25	1 0
	12	1 5	2 0	1 25	1.5
	12B	2 5	1 0	2 0	—

V. REMARKS

This cotton is suitable for 10/12's warp yarn spun with moderate twist

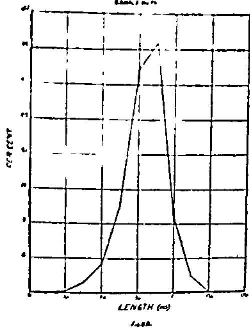

LENGTH (ms)

TABLE 8—SPINNING TEST RESULTS

	2	3	4	5	6	7	8	9	10	11	12	13	14	15
				Waste Percentages				Spinning Particulars						
Sample No	Season	Counts Nominal	Weight of Sample	Blow Room Loss	Card Room Loss	Spinning Loss	Total Loss	Card Production per Hour	Ring Frame Production per Spindle per 10 hrs	Ring Frame Ends Breakages per oz Yarn	Ring Frame Front Roller Speed R.P.M	Ring Frame Front Roller Diameter Inch	Ring Frame Draft	Ring Frame turns per Inch
			lbs					lbs	ozs					
79/1	1924 25	10	100	8 3	7 0	0 6	15 2	12 5	19 29	0 07	211	7/8	5 13	12.63
79/2	,,	,,	10	8 4	7 7	0 4	15 9			0 20	211	7/8	5 41	12 63
79/3	,,	,,	5	8 1	9 3	0 4	16 9			0 09	207	7/8	5 55	12 67
79/4	,,	,,	5	8 3	10 0	0 3	17 6			0 09	207	7/8	5 41	12 63
79/5	,,	,,	2	8 8	12 1	0 5	20 1	.		0 16	211	7/8	5 55	12 63
79/6	,,	,,	2	8 0	12 9	0 5	20 1			0 03	211	7 8	5 41	12 63
79/1	,,	12A	100		.				.	0 15	193	7/8	6 25	13 92
79 2	,,	,,	10							0 18	193	7/8	6 45	13 92
79 3	,,	,,	5							0 14	194	7/8	6 61	13 92
79 4	,,	,,	5				.	.		0 09	194	7/8	6 45	13 92
79 5	,,	,,	2	.	.	..	..	.	..	0 08	188	7/8	6 89	13 92
79 6	,,	,,	2	..	.	..	..	..	.	0.08	188	7/8	6 50	13 92
79 1	,,	12B	100	..	..	.	..	..	..	0.21	177	7/8	6 25	14.68
79 2	,,	,,	10	..	..	..	.	..	..	0 27	177	7/8	6 61	14 68
79/3	,,	,,	5	..	..		..	.	.	0 09	179	7/8	6 61	14.68
79/4	,,	,,	5	..	..	..	..		..	0 13	179	7/8	6 45	14.68

FOR CAWNPORE K 2.

16	17	18	19	[illegible]	[illegible]	[illegible]	23	24	25
		[illegible]					TEMPERATURE	RELATIVE HUMIDITY	
Counts Actual	Lea Strength Lbs	Single Thread [illegible]	Single Thread [illegible]	Single Thread Weak [illegible]	Threads per [illegible] Actual	Single Thread [illegible]	Spinning Room	Spinning Room	Testing Room
9 6	117 1	[illegible]	[illegible]	[illegible]	14 5	7 2	76	75	57
9 5	117 4	[illegible]	13 4	[illegible]	13 3	7 5	76	75	51
9 4	115 7	19 8	11 5	6 0	13 7	7 6	75	78	51
9 2	136 1	21 5	10 1	2 5	14 9	7 7	75	78	52
9 9	106 5	23 7	11 3	6 0	12 5	8 5	75	78	61
9 7	117 0	19 3	10 6	2 0	13 5	7 4	75	78	65
11,9	81 7	14 3	16 3	9 5	15 5	6 3	76	74	58
11 6	86 4	16,2	12 3	3 5	14 8	6 3	76	74	53
11 3	92 9	16 5	14 0	7 5	15 4	6 7	74	74	51
11 4	101 2	16 6	9 2	2 0	16 0	6 8	74	74	62
11 4	85 0	17 0	11 6	5 5	14 9	7.2	76	82	63
11 3	97.1	17 4	10 7	2 0	14 8	7.3	76	82	66
11 8	96 9	16 7	12 3	3 5	15 1	6 8	74	73	57
11 5	95 8	17.0	7 1	3 5	15 5	7.1	74	73	53
11,2	112 5	17 1	11.0	4 0	16.7	6 8	74	76	51
11 2	110.4	18 8	9 6	2,0	16 5	7 8	74	76	53

9. REPORT ON BUNDELKHAND J.N. 1

for Season 1924-25 (Sample No. 78).

I SIZE OF CROP.

Particulars not available.

II. GRADER'S REPORT.

Class	Fine Punjab-American.
Staple Length	11/16—13/16 inch.
Staple Strength	Good
Regularity	—

III FIBRE PARTICULARS

1. Fibre-Length Distribution (Balls Sorter)—

Mean group-length in eighths of an inch	Percentage
2	0 3
3	2 2
4	5.3
5	14 8
6	32.4
7	33 0
8	10 7
9	1 3

2a Mean Fibre-Length by Balls Sorter (inch)	0 78
2b Mean Fibre-Length by Baer Sorter (inch)	0 78
3 Mean Ribbon Width (inch)	00070
4 Mean Convolutions per inch	96

IV SPINNING TESTS

1. *Treatment* —Normal, *i e*, Lattice Feeder, Crighton (twice), Hopper, Scutcher (3 times), Card, Drawing (2 heads), Slubber, Inter, Rover, spun from a single hank roving in Ring Frame No. 1.
2. *Spinning Master's Report* —Clean and white harsh to feel.
3. *Spinning Test Results* —See Table 9
4. *Yarn Examination* —

—	Counts	Season			
		Sample No 78/1	Sample No 78/2	Sample No. 78/3	Sample No 78/5
Evenness	8	Even	Even	Even to fairly even	—
	10	Even	Even	Fair	Even
	12	Fair	Fair	Fairly even to uneven	Fair
Neppiness	8	0 75	1 0	0 5	—
	10	0 5	0 75	0.25	0.25
	12	0 5	1 0	1.5	0.25

V. REMARKS.

This cotton is suitable for 10,12's yarn spun with moderate twist.

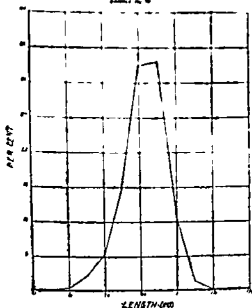

PER CENT
LENGTH

TABLE 9—SPINNING TEST RESULTS

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
				Waste Percentages				Spinning Particulars						
Sample No.	Season	Counts Nominal	Weight of Sample	Blow Room Loss	Card Room Loss	Spinning Loss	Total Loss	Card Production per Hour	Ring Frame Production per Spindle per 10 hrs	Ring Frame Yarn Breakages per oz Yarn	Ring Frame Front Roller Speed R P M	Ring Frame Front Roller Diameter Inch.	Ring Frame Draft	Ring Frame turns per Inch.
			lbs					lbs	ozs					
78/1	1924 25	10	100	5 7	5 6	1 2	12 0	15 7	15 11	0 14	192	7/8	5 72	13.58
78/2	,,	,,	10	5 7	7 1	0 8	13 1	.		0 34	192	7/8	5.88	13 58
78/3	,,	.	5	5 9	6 8	0 7	13 0			0 17	191	7/8	5 55	13.58
78/4	,,	,,	5	5 6	7 0	0 7	12 8			0 13	191	7/8	5.88	13 58
78/5	,,	,,	2	5 5	11 6	1 2	17 4			0 08	193	7/8	5 26	13.58
78/6	,,	,,	2	5 1	12 1	0 9	17 3			0 08	193	7/8	5 26	13.58
78/1	,,	12	100							0 44	182	7/8	6 50	14 68
78/2	,,	,,	10							0 08	182	7/8	6 96	14.68
78/3	,,	,,	5							0.17	182	7/8	6 50	14.68
78/4	,,	,,	5							0 13	182	7/8	6 72	14 68
78/5	,,	,,	2	.			.	..	..	0 15	186	7/8	6 33	14.68
78/6	,,	,,	2		..		..	..		0 09	186	7/8	6.50	14.68
78/1	,,	8	100		..	..	.	..	..	0 38	212	7/8	4.33	11.31
78/2	,,	,,	10	.	..	..	.	.	..	0 07	212	7/8	4.53	11.31
78/3	,,	,,	5	.	.		..	.	.	0 30	210	7/8	4 33	11
78/4	,,	,,	5	.	..	..		.	..	0 21	210	7/8	4 53	11..

FOR BUNDELKHAND [illegible]

[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
10 6	10[illegible]	1[illegible]	12 6	[illegible]	13 [illegible]	6 1	[illegible]	77	63
10 2	12[illegible]	19 [illegible]	[illegible]	0	13 6	6 3	[illegible]	77	54
10 2	112 7	17 3	[illegible] 5	1 8	13 6	5 5	61	80	57
9 6	135 8	[illegible]	6 0	0	13 5	5 6	81	80	60
10 0	128 9	18 6	9 1	0	13 2	6 7	79	75	65
9 6	133 2	17 1	15 1	4 0	13 7	6 0	79	75	60
12 0	85 1	14 4	14 1	0 5	14 6	5.2	77	74	62
12.3	88 1	14 9	6 9	0	14 8	5 8	77	74	59
11.7	84 7	14 6	11.1	2.0	14 5	6 0	75	75	48
12 6	86 1	15 6	9.3	0	14 2	5 6	75	75	65
11 7	98 8	16 9	9.5	0	13.7	5 7	76	74	63
11.3	110 4	16 4	9 8	5 0	14 5	5.4	76	74	63
7.99	129 9	19 5	13 8	0	11 7	6 2	76	73	65
7.71	148.4	24.7	9.3	0	11.3	6 7	76	73	63
7.94	132 6	23.1	11.8	4.5	11 7	6 8	75	72	57
7.72	146 0	29.0	8.6	1.0	11.6	6 0	75	72	64

10. REPORT ON ALIGARH A19

for Season 1924-25 (Sample No. 22).

I. SIZE OF CROP.

Particulars not available.

II. GRADER'S REPORT.

Class	Fine.
Colour	Creamy.
Staple Length	⅞ inch
Staple Strength	—

III FIBRE PARTICULARS

1. Fibre-Length Distribution (Balls Sorter)—

Mean group-length in eighths of an inch	Percentage.
2	0 8
3	2 9
4	8 7
5	26 1
6	40.8
7	17.5
8	3 1
9	0 1

2a Mean Fibre-Length by Balls Sorter (inch)	0 71
2b Mean Fibre-Length by Baer Sorter (inch)	0 72
3 Mean Ribbon Width (inch)	00078
4. Mean Convolutions per inch	129

IV SPINNING TESTS

1. *Treatment* —Normal i e , Lattice Feeder, Crighton (twice), Hopper, Scutcher (3 times), Card, Drawing (2 heads), Slubber, Inter, Rover, spun from a single hank roving in Ring Frame No. 1.
2. *Spinning Master's Report* —
3. *Spinning Test Results* —See Table 10
4. *Yarn Examination* —

—	Counts	Season			
		Sample No 22/1	Sample No. 22/3	Sample No 22/5	Sample No. 22/6
Evenness ..	8	—	Fairly even to uneven	Fair	Uneven
	8B	—	Fairly even to uneven	Fair	Uneven
	10	Even to fairly even	Fairly even to uneven	Uneven	Uneven
	10B	Even to fairly even	—	Uneven	Fair
Neppiness ..	8	—	0.25	0	0
	8B	—	0 25	0	0
	10	0	0 25	0 25	0 25
	10B	0 25	—	0	0 25

V. REMARKS

The cotton is suitable for about 8's yarn when spun with moderate twist

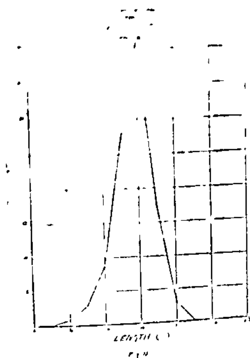


TABLE 10—SPINNING TEST RESULTS

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
				Waste Percentages				Spinning Particulars						
Sample No	Season	Counts Nominal	Weight of Sample	Blow Room Loss	Card Room Loss	Spinning Loss	Total Loss	Card Production per Hour	Ring Frame Production per Spindle per 10 hrs	Ring Frame Yarn Breakages per oz Yarn	Ring Frame Front Roller Speed R P M	Ring Frame Roller Diameter Inch	Ring Frame Draft	Ring Frame turns per Inch
			lbs					lbs	oz					
22/6	1924 25	10A	100	3 6	6 5	1 2	10 9			0 11	193	7/8	5 60	15 08
22/5	"	"	10	4 6	7 5	1 2	12 8			0 06	198	7/8	6 00	15 08
22/4	"	"	5	4 4	8 0	1 4	13 2			0 22	180	7/8	6 00	15 08
22/3	"	"	5	5 1	7 8	1 3	13 7			0 17	180	7/8	6 00	15 08
22/2	"	"	2	6 2	10 6	0 9	16 8			0 30	189	7/8	5 76	15 08
22/1	"	"	2	4 7	10 7	1 4	16 2			0 30	191	7/8	5 41	15 08
22/6	"	10B	100							0 07	186	7/8	5 46	13 58
22/5	"	"	10							0 06	190	7/8	5 85	13 58
22/2	"	"	2							0 45	209	7/8	5 76	13 58
22/1	"	"	2							0 45	208	7/8	5.41	13 58
22/6	"	8A	100							0 06	188	7/8	4 80	13 58
22/5	"	"	10							0 06	190	7/8	5 00	13 58
22/4	"	"	5					.	.	0	219	7/8	5 00	13 58
22/3	"	"	5					.		0 22	222	7/8	4 80	13 58
22/6	"	8B	100	.	.	..		.	.	0 11	202	7/8	4 60	12 07
22/5	"	"	10	..	.	..	.	.		0 06	239	7/8	5 00	12 07
22/4	"	"	5	..		..	.	..	..	0 22	242	7/8	5 00	12 07
22/3	"	"	5	.	..	.	..	..		0 22	248	7/8	4 60	12 07

FOR ALIGARH A 19.

16	17	18	19	20	21	22	23	24	25
Yarn Test Results							Temperature	Relative Humidity.	
Counts Actual	Lea Strength Lbs	Single Thread Strength Ozs	Single Thread Irregularity %	Single Thread Weakness Percentage	Turns per Inch Actual	Single Thread Extension %	Spinning Room °F.	Spinning Room %	Testing Room, %
9 3	98 5	15 9	14 4	8 4	16 2	5 0	91	62	74
9 4	103 6	17 2	13 6	6 4	16 1	5 2	91	66	79
9 6	92 2	17 9	14 5	6 8	16 3	5 6	89	65	73
9 1	105 8	18 2	15 9	6 4	15 4	6 2	90	69	83
9 6	98 0	17 2	16 3	9 6	15 5	6 2	90	66	84
9 4	102 4	16 8	13 0	4 4	16 1	7 0	90	66	81
9 0	77 1	13 0	20 5	19 2	15 0	4 5	91	65	77
9 4	66 7	15 7	16 8	12 4	13 9	5 4	91	66	75
9 5	73 3	15 5	21 3	16 4	13 8	5 8	90	68	81
9 9	65 2	15 1	13.6	7 2	14 0	5 8	90	66	81
7 7	124 8	18.7	13 6	7 2	15 1	6 2	91	62	76
7 9	121 7	23 7	10.1	4 0	14 6	6 2	89	65	77
7 7	122.0	24 4	12 4	4 4	14 8	6 2	89	65	73
7 9	126 2	24 8	10 2	3 2	14 6	6.7	90	69	82
7 6	87 3	15.1	19 1	14.4	13.1	4 6	91	65	76
7 9	76 8	20 3	13 1	4.4	13 1	5 7	83	65	76
7 8	78 3	17 1	17.1	10 4	12.8	5 4	89	65	73
7 7	66 5	20.5	16 8	13 6	13.2	5.9	90	69	62

11. REPORT ON COIMBATORE (Co) 1—CAMBODIA 295

for Seasons { 1923-24 (Sample Nos. 2, 105).
1924-25 (Sample No. 84).

I. SIZE OF CROP.

About 600 bales. (*Total* Cambodia crop about 165,000 bales for 1925-26.)

II. GRADER'S REPORT.

—	Season 1923-24.	Season 1924-25.
Class	Extra Superior	Fine Cambodia.
Colour	Good	Creamy
Staple Length	1 1/16—1 1/8 inch	7/8—15/16 inch
Staple Strength	Good	Good
Regularity	Regular	—
Remark	—	Staple not as good as in 1923-24

III FIBRE PARTICULARS

1 Fibre Length Distribution (Balls Sorter)—

Mean group-length in eighths of an inch	Percentage	
	Season 1923-24	Season 1924 25.
2	—	0.5
3	0.6	1.8
4	1.5	3.6
5	3.0	7.4
6	6.3	15.8
7	13.7	37.7
8	25.5	24.7
9	27.8	8.0
10	15.7	0.5
11	5.9	—
2*a* Mean Fibre Length by Balls Sorter (inch)	1.04	0.86
2*b* Mean Fibre Length by Baer Sorter (inch)	1.05	0.85
3 Mean Ribbon Width (inch)	00069	00064
4 Mean Convolutions per inch	91	91

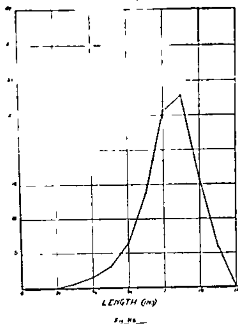
IV SPINNING TESTS

1
2
3
4

—	Counts	Season					
		Sample No 2/1	Sample No 2/2	Sample No 2/3	Sample No 2/5	Sample No 105/1	Sample No. 84/1
Evenness	28	Even to fairly even	—	—	—	—	—
	34	Fair	—	—	—	—	—
	40	Uneven	Even to fairly even	Even to fairly even	Even to fairly even	—	—
Neppiness	28	0.75	—	—	—		
	34	1.5	—	—	—		
	40	1.0	0.875	1.25	1.0		
Evenness	20	—	—	—	—	Even to very even	Even
	30	—	—	—	—	Even to fairly even	Fair
	40	—	—	—	—	Fair	Fairly even to uneven
Neppiness	20	—	—	—	—	1.25	1.0
	30	—	—	—	—	0.75	1.75
	40	—	—	—	—	1.0	1.75

V REMARKS.

This cotton is suitable for about 30's warp yarn spun with moderate twist. It is particularly interesting to note that in spite of the much reduced staple length in 1924-25 as compared with 1923-24, there is very little difference between the results of the spinning tests for the two seasons.


LENGTH (INS)

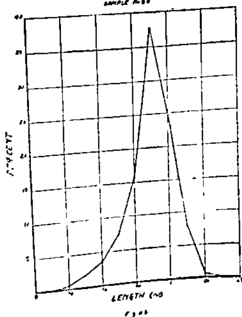

CAMBODIA 295F 1924-25
LENGTH

TABLE 11—SPINNING TEST RESULTS

	2	3	4	5	6	7	8	9	10	11	12	13	14	15
				WASTE PERCENTAGES				SPINNING PARTICULARS						
	Season	Counts Nominal	Weight of Sample	Blow Room Loss	Card Room Loss	Spinning Loss	Total Loss	Card Production per Hour	Ring Frame Production per Spindle per 10 hrs.	Ring Frame Yarn Breakages per oz Yarn	Ring Frame Front Roller Speed R. P. M.	Ring Frame Front Roller Diameter Inch.	Ring Frame Draft	Ring Frame turns per Inch
			lbs					lbs	ozs					
	1923 24	28	100	2 0	12 6	2 4	16 9				134	7,8	5 85	21.29
	"	34	100								107	7/8	6 94	23 80
	"	40	100								102	7/8	8 18	26.97
	"	"	10	3 2	16 8	1 5	20 6				99	7/8	7.80	26.97
	"	"	5	4 0	14 4	1 7	18 4				100	7/8	7.94	26.97
	"	"	5	3 6	13 5	2 6	18 7				103	7/8	7.80	26.97
	"	"	2	5 1	10 5	2 3	17.0				98	7/8	8.18	26.97
	"	"	2	3 9	11 8	1 8	16 9				100	7/8	8 16	26.97
1	"	20	100	4 2	6 2	0 9	10 9			0 11	181	7/8	4.18	16.85
2	"	"	10	4 4	6 3	0 6	11 0			0 15	181	7/8	4.26	16 85
3	"	"	10	4 5	6 4	0 4	11 0			0 15	181	7/8	4.17	16.85
1	"	30	100							0 05	138	7/8	6 21	21.86
2	"	"	10							0 05	142	7/8	6 45	21.86
3	"	"	10							0 05	142	7/8	6 25	21.86
1	"	40	100					11 0	2 33	0 12	115	7/8	8 28	26.97
2	"	"	10						.	0 15	115	7/8	8 28	26 97
3	"	"	10						..	0 15	115	7/8	8.28	26.97
1	1924 25	20	9	4 6	7 4	0.5	12.1	.	..	0 05	180	7/8	4.27	16 85
2	"	"	9	4 3	7 6	0 6	11.9		.	0 09	180	7/8	4.17	16 85
A	"	30	9	..	.	..	..	..	..	0.14	139	7/8	6.41	21.86
2	"	"	9	..	..	..	..	..	..	0.09	139	7/8	6.25	21.86
A	"	40	9	..	..	..	..	..	..	0 09	113	7/8	8 39	26.97
2	"	"	9	..	.	..	..	..	..	0 14	113	7/8	8.23	26.97

FOR COIMBATORE 1 (CAMBODIA 295)

16	17	18	19	20	21	22	23	24	25
Yarn Test Results							Temperature.	Relative Humidity	
Counts Actual	Lea Strength Lbs	Single Thread Strength Ozs	Single Thread Irregularity %	Single Thread Weakness Percentage	Turns per Inch Actual	Single Thread Extension %	Spinning Room, °F.	Spinning Room, %	Testing Room %
26.4	60.9	7.5	9.3	0.4	19.0	2.8	83	63	60
34.4	42.8	5.4	9.9	1.2	19.5	2.3	83	63	59
39.6	35.8	5.3	8.5	1.2	21.1	2.9	83	64	55
39.9	36.1	4.7	13.3	6.0	22.3	2.9	80	66	43
39.6	38.2	4.7	15.6	6.8	22.7	3.1	78	73	53
39.0	37.8	4.7	13.1	5.8	22.7	3.3	79	60	67
42.4	29.6	3.9	15.3	9.5	20.4	2.7	79	61	60
41.3	31.6	4.3	14.6	7.3	19.8	3.3	78	65	61
20.2	88.4	12.0	8.4	0	17.1	4.4	87	73	57
19.9	78.9	10.5	9.8	2.0	16.7	4.6	86	72	47
19.5	90.4	10.5	13.0	4.5	17.2	4.3	88	72	55
29.6	56.4	8.0	9.6	0.5	20.4	3.7	87	73	57
29.8	51.2	7.1	10.7	3.0	22.1	4.5	85	69	55
29.3	51.9	7.1	10.7	2.5	20.9	3.8	85	69	58
40.3	33.5	5.7	10.8	3.5	24.2	3.6	87	72	62
39.4	32.6	5.2	11.9	1.5	26.8	3.3	85	63	52
39.1	33.2	5.2	12.6	3.5	25.3	3.4	85	63	59
20.0	84.4	12.0	8.0	0	19.0	6.7	87	74	61
19.5	81.0	11.9	5.8	0	17.8	6.6	87	74	55
30.5	47.9	6.8	11.6	1.0	21.8	5.4	87	76	57
29.9	47.7	7.1	9.0	1.5	22.5	5.8	87	76	55
39.0	33.7	5.5	11.6	3.5	28.5	5.0	83	66	60
39.6	30.1	5.0	11.4	4.0	26.4	4.6	65	66	47

12. REPORT ON NANDYAL (SIRCAR) 14

for Seasons { 1923-24 (Sample No. 73).
1924-25 (Sample No. 74).

I SIZE OF CROP.

About 3,000 bales

II GRADER'S REPORT.

—	Season 1923-24.	Season 1924-25
Class	Fine Cambodia	F. G. to Fine
Colour	Creamy	Creamy
Staple Length	15/16 inch	7/8—15/16 inch
Staple Strength	Good	Good.
Regularity	Regular	—

III FIBRE PARTICULARS

1 Fibre-Length Distribution (Balls Sorter) —

Mean group-length in eighths of an inch	Percentage	
	Season 1923-24	Season 1924-25
2	0.1	—
3	1.3	1.5
4	2.9	3.0
5	6.2	6.6
6	12.0	12.9
7	26.5	32.2
8	37.4	32.7
9	12.6	9.6
10	1.0	1.5
2a Mean Fibre Length by Balls Sorter (inch)	0.90	0.89
2b Mean Fibre Length by Baer Sorter (inch)	0.91	0.89
3 Mean Ribbon Width (inch)	00074	.00068
4 Mean Convolutions per inch	86	83

IV SPINNING TESTS

1 *Treatment* —Normal, i.e., Lattice Feeder, Crighton (twice), Hopper, Scutcher (3 times), Card, Drawing (2 heads), Slubber, Inter, Rover, spun from single hank roving in Ring Frame No 1

2 *Spinning Master's Report* —1923-24 clean but too creamy

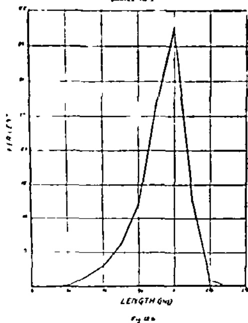
3 *Spinning Test Results* —See Table 12

4 *Yarn Examination* —

—	Counts	Season				
		Sample No 73/1	Sample No 73/2	Sample No 73/3	Sample No 73/5	Sample No. 74/1
Evenness	20	Even to fairly even	Even	Even	Even	Even to fairly even
	30	Fairly even to uneven	Even to fairly even	Even to fairly even	Even to fairly even	Fairly even to uneven
	40	Uneven	Uneven	Uneven	Uneven	Uneven to very uneven
Neps	20	2.25	1.5	2.0	1.5	3.0
	30	2.0	1.25	1.5	1.25	3.66
	40	2.5	1.25	1.25	1.25	2.5

V. REMARKS.

This cotton is suitable for about 30's warp yarn spun with moderate twist. The results for 1924-25 are much the same as those for 1923-24.


NANDYAL
LENGTH (ins)

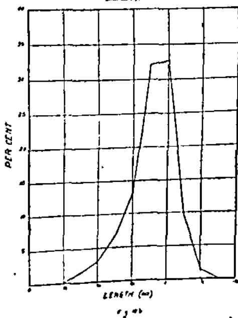

NANDYAL 14 1924-25
PER CENT
LENGTH

TABLE 12—SPINNING TEST RESULTS

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
				Waste Percentages				Spinning Particulars.						
Sample No	Season	Counts Nominal	Weight of Sample	Blow Room Loss	Card Room Loss	Spinning Loss	Total Loss	Card Production per Hour	Ring Frame Production per Spindle per 10 hrs	Ring Frame Yarn Breakages per oz Yarn	Ring Frame Front Roller Speed R P M.	Ring Frame Front Roller Diameter Inch	Ring Frame Draft	Ring Frame turns per Inch.
			lbs					lbs	ozs					
73/1	1923-24	20	100	6 1	5 7	0 9	12 2			0 20	182	7/8	4 35	16.85
73/2	,,	,	10	5 9	7 5	0 9	13 7			0 17	182	7/8	4 33	16 85
73/3		,	5	6 0	7 8	0 5	13 7			0 09	182	7/8	4 59	16 85
73/4	,,	,	5	6 2	8 3	0 5	14 4			0 13	182	7/8	4 59	16 85
73/5	,	,	2	6 4	9 4	0 5	16 2			0 34	182	7/8	4 44	16.85
73/6	,,	,	2	6 6	10 8	0 5	17 0			0 23	182	7/8	4 33	16 85
73/1	,,	30	100							0 33	142	7/8	6 61	21.86
73/2	,,	,	10							0 30	142	7/8	6 45	21.86
73 3	,	,	5							0 13	141	7/8	6 38	21.86
73,4	,	,,	5							0 09	141	7/8	6 75	21.86
73 5	,,	,	2		.					0 11	141	7/8	6 66	21.86
73/6	,,	,,	2							0 11	141	7 8	6 50	21.86
73/1	,,	40	100					11 6	2 42	0 55	114	7/8	8 66	26 97
73/2	,,	,,	10							0 45	114	7/8	8 83	26 97
73 3	,,	,,	5						..	0 13	114	7/8	8 66	26 97
73 4	,,	,,	5		.		.	.	..	0 09	114	7/8	8 83	26.97
73 5	,,	,,	2		.	..	..	..	..	0 11	114	7/8	8 83	26 97
73 6	,,	,,	2	.	.	.	..	..	..	0 11	114	7/8	8 66	26 97
74/1	1924-25	20	9	8 1	8 0	0 6	15 9	..	..	0 20	180	7/8	4.44	16 85
74/2	,,	,,	9	8 3	8 7	0 5	16 4	.	..	0 20	180	7/8	4 23	16 85
74 1	,,	30	9	.	.	.	..	..	..	0 05	141	7/8	6 83	21.86
74/2	,,	,,	9	.		..	.		.	0 05	141	7/8	6 61	21 86
74 1	,,	40	9	.	.		..	..	..	0.15	114	7/8	9 14	26 97
74/2	,,	,,	9	..	..	..	.	..	..	0 20	114	7/8	8 83	26 97

FOR NANDYAL 14 (NORTHERNS).

16	17	18	19	21	21	22	23	24	25
Yarn Test Results							Temperature.	Relative Humidity.	
Count Actual	Lea Strength Lbs	Single Thread Strength Ozs	Single Thread Irregularity %	Single Thread Weakness Percentage	Turns per Inch Actual	Single Thread Extension %	Spinning Room °F	Spinning Room. %	Testing Room %
19 5	93 7	14 6	10 0	1 6	19 5	6 2	84	73	58
19 2	93 3	13 0	12 5	4 8	19 1	5 6	84	73	56
20 1	82 4	12 9	9 3	2 4	19 4	5 5	83	78	50
19 8	82 0	12 6	10 1	3 6	19 7	5 3	83	78	56
19.6	93 4	13 0	9 1	1 5	20 2	5.3	83	78	60
21 4	71 8	12 6	7 9	1 0	19.5	5 1	83	78	57
29.7	53.0	9 3	9.8	2.4	25 3	5 5	83	73	64
28 6	55 2	8 4	9.8	2.4	24 9	4 7	83	73	52
28 1	55.3	9 6	9.7	2 0	24.5	5 5	85	80	57
29.4	55.3	8 9	12 5	4.8	24.2	5 0	85	80	67
29.9	54.2	8.6	11.6	5 0	23 9	4 4	83	78	61
30 1	50 9	9 1	11.4	3 0	24 1	4.7	83	78	62
39 4	36.1	6.4	12.0	8 0	29.6	4 2	83	73	58
39 3	34.4	6 4	12 2	4.8	29 4	4 2	83	73	54
39.4	32.9	6 4	13 2	5.6	29 2	4 3	83	74	61
38 7	37.8	6 2	11.9	4 4	29 3	4 3	83	74	66
40.5	33.7	6 6	12 5	3 0	29.3	4 2	84	79	57
39.9	34.1	6.3	12 1	7 0	27.9	4.2	84	79	[illegible]
19 8	96 3	10 7	11 8	5 6	17.8	2.3	83	82	62
18 6	97 5	10.9	10.3	6 0	16 7	4.4	83	82	50
29 7	52.8	7 4	10.8	6 4	21 2	2.2	81	81	58
28 9	51.7	7 2	12.8	5 0	22.9	3 7	81	81	51
39 0	34 0	4.9	13 8	5.6	27.0	3 6	82	83	58
38.5	33 3	5 5	13.6	8 0	27.2	3 3	82	83	44

13. REPORT ON HAGARI (SIRCAR) 25

for Seasons { 1923-24 (Sample No. 75). / 1924-25 (Sample No. 76).

I SIZE OF CROP.

About 25,000 bales

II GRADER'S REPORT.

—	Season 1923-24	Season 1924-23
Class	F G to Fine Western	Fine Western
Colour	Tinged.	Creamy
Staple Length	¾—13/16 inch	11/16—⅞ inch
Staple Strength	Good	Good

III FIBRE PARTICULARS

1 Fibre-Length Distribution (Balls Sorter)—

Mean group-length in eighths of an inch	Percentage	
	Season 1923-24	Season 1924-25
2	—	—
3	1 5	1 5
4	3.1	3.7
5	7 5	8 7
6	15 0	20 6
7	28 0	35.9
8	27.9	21.6
9	13 0	6.8
10	3 7	1.2
11	0 3	—

2a Mean Fibre-Length by Balls Sorter (inch)	0 90	0.86
2b Mean Fibre-Length by Baer Sorter (inch) .	0 90	0.87
3 Mean Ribbon Width (inch)	.00070	.00066
4 Mean Convolutions per inch .	84	91

IV SPINNING TESTS.

1 [illegible]

2 [illegible]

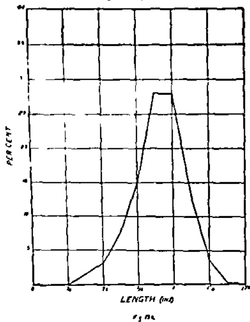
3 [illegible]

4 [illegible]

—	Counts	Season.				
		Sample No 75/1	Sample No 75/2	Sample No 75/3	Sample No 75/5	Sample No 76/1
Evenness	20	[illegible]	[illegible]	[illegible]	[illegible]	Even
	30	[illegible]	[illegible]	[illegible]	[illegible]	Fair
	40	[illegible]	[illegible]	[illegible]	[illegible]	Fairly even to uneven
Neps ...	20	2 0	1 75	2.25	1.0	1.5
	30	1 5	1 25	1.75	1.0	1.75
	40	1 25	1.0	1.5	0.75	1.5

V. REMARKS.

This cotton gives a decidedly better spinning test for 1924-25 than for 1923-24 It may be noted that the grader assigns a higher value for staple length to the 1924-25 cotton whereas by the Sorter tests its value is


PERCENT
LENGTH (IN.)

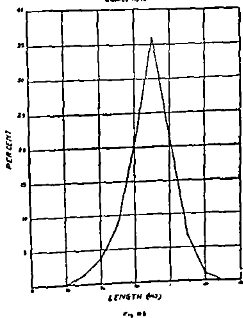

HAÇARI 25 1924-25
PERCENT
LENGTH (IN.)

TABLE 13—SPINNING TEST RESULTS

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
				Waste Percentages				Spinning Particulars						
Sample No	Season	Counts Nominal	Weight of Sample	Blow Room Loss	Card Room Loss	Spinning Loss	Total Loss	Card Production per Hour	Ring Frame Production per Spindle per 10 hrs	Ring Frame Yarn Breakages per oz Yarn.	Ring Frame Front Roller Speed R P M.	Ring Frame Front Roller Diameter Inch	Ring Frame Draft	Ring Frame turns per Inch
			lbs					lbs	ozs					
75/1	1923 24	20	100	10 6	6 5	1 1	17 4			0 29	183	7/8	4 35	16 85
75/2	„	„	10	9 8	8 1	0 9	17 8			0 28	183	7 8	4 35	16,85
75/3	„	„	5	10 0	8 6	0 8	18 4			0 14	184	7/8	4 25	16 85
75/4	„	„	5	9 4	9 4	1 1	18 7			0 23	184	7/8	4 25	16 85
75,5	„	„	2	10 5	11 0	0 7	20 9			0 47	182	7/8	4 08	16 85
75/6	„	„	2	10 5	11 7	1 2	21 9			0 72	182	7/8	4 33	16 85
75/1	„	30	100							0 13	140	7/8	6 61	21,86
75/2	„	„	10							0 05	140	7/8	6 61	21 86
75/3	„	„	5							0 14	141	7,8	6 45	21 86
75/4	„	„	5							0 28	141	7,8	6 24	21 86
75/5	„	„	2							0.12	140	7 8	6 41	21 86
75/6	„	„	2							0 36	140	7/8	6 83	21,86
75/1	„	40	100					12 0	2 47	0 70	115	7/8	9 14	26 97
75/2	„	„	10						„	0 32	115	7/8	8 83	26 97
75/3	„	„	5						„	0 73	114	7/8	8 50	26 97
75/4	„	„	5					„		0 64	114	7,8	8 23	26 97
75/5	„	„	2				„	„	„	0 47	116	7/8	8 50	26 97
75/6	„	„	2			„	„	„	„	0 48	116	7 8	8 83	26 97
76/1	1924 25	20	10	5 9	7 0	0 4	12.7	„	„	0 17	183	7/8	4 44	16 85
76/2	„	„	10	4 9	7 2	0 4	12 0	„	„	0 22	183	7,8	4 44	16 85
76/1	„	30	10			„	„	„	„	0 10	142	7,8	6 45	21,86
76/2	„	„	10	„	„	„	„	„	„	0 10	142	7 8	6 66	21 86
76/1	„	40	10	„		„	„		„	0 35	114	7/8	8 55	26 97
76/2	„	„	10			„	„	„	„	0.45	114	7,8	8 83	26 97

FOR HAGARI 25 (WESTERNS)

16	17	18	19	20	21	22	23	24	25
	Yarn Test Results						Temperature	Relative Humidity	
...ments Actual	Lea Strength Lbs	Single Thread Strength Ozs	Single Thread Irregularity %	Single Thread Weakness Percentage	Turns per Inch Actual	Single Thread Extension %	Spinning Room °F.	Spinning Room %	Testing Room %
19.1	76.6	11.6	9.6	0	17.1	4.6	82	82	53
19.2	73.4	12.0	9.2	0.5	18.3	4.4	82	82	58
19.5	75.7	12.2	11.2	0	17.5	4.7	84	78	63
20.4	61.7	12.0	11.4	0	16.9	4.7	84	78	64
20.0	70.0	11.8	10.9	1.5	18.4	4.5	84	78	56
19.2	79.8	11.5	6.9	0	18.7	4.6	84	78	63
28.9	44.3	7.5	7.6	0	19.8	3.8	83	81	51
29.4	44.9	7.2	9.3	0.5	21.9	4.1	83	81	60
30.0	41.6	7.6	9.4	0	21.2	4.2	84	79	61
29.7	41.6	7.8	10.6	0.5	20.9	4.0	84	79	56
30.0	39.9	6.9	8.7	0	20.4	4.1	84	76	61
30.9	35.3	7.0	10.5	0.5	21.8	4.3	84	76	64
40.2	26.4	5.0	9.2	0	24.0	3.2	83	78	54
40.0	27.5	5.0	10.0	0	24.3	3.4	83	78	57
39.6	27.0	5.9	9.4	1.0	26.1	3.7	84	80	63
39.6	29.4	5.4	10.5	0.5	24.3	3.4	84	80	66
39.0	27.1	5.3	9.4	0.5	23.8	3.5	84	78	54
39.3	28.2	5.3	9.7	0.5	23.6	3.4	84	78	56
19.1	92.8	11.3	7.7	1.5	18.0	4.5	80	72	64
19.9	82.0	10.8	8.5	0.5	17.4	5.0	80	72	62
29.3	47.2	7.3	9.8	3.5	22.9	3.9	80	72	55
29.4	46.5	7.1	12.3	6.0	22.0	3.8	80	72	62
39.4	30.2	4.7	13.8	11.0	27.1	3.4	84	74	52
39.4	31.8	5.2	12.4	3.0	27.6	3.4	84	7[illegible]	74

14. REPORT ON KARUNGANNI 'C'.

for Seasons 1923-24 (Sample Nos. 6, 107).
1924-25 (Sample No. 86).

I. SIZE OF CROP.

About 33,000 bales (*ordinary* Karunganni crop is much larger)

II GRADER'S REPORT

—	Season 1923-24	Season 1924-25.
Class	Fine Cambodia	Fine
Colour	Creamy	Creamy
Staple Length	⅞—1 inch	⅞—13/16 inch
Staple Strength	Good	Good
Regularity	Regular	Regular
Remark	—	Not equal to 1923-24 cotton, which is superior all round

III FIBRE PARTICULARS

1 Fibre Length Distribution (Balls Sorter) —

Mean group-length in eighths of an inch	Percentage	
	Season 1923-24	Season 1924-25.
2	0 1	0.2
3	0 7	1 5
4	1 5	2 5
5	4 0	8 3
6	11 5	21 4
7	23 2	42 0
8	32 7	17 8
9	19 6	4 9
10	6 7	1.2
11		0 2
2a Mean Fibre Length by Balls Sorter (inch)	0 96	0.85
2b Mean Fibre-Length by Baer Sorter (inch)	0 95	0 84

4 [illegible] ubber, [illegible] soft

Shed unusual amount of fly

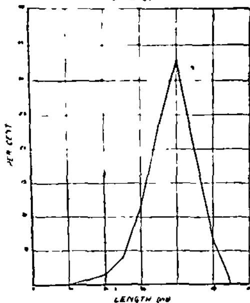
3 *Spinning Test Results* —See Table 14

4 *Yarn Examination* —

—	Counts	Season: Sample No 6/1	Sample No 6/2	Sample No 6/3	Sample No 6/5	Sample No 107/1	Sample No. 86/1
Evenness	20	Even	Even	Even	Even	—	—
	28	Fair	Even to fairly even	Even to fairly even	Even to fairly even	—	—
	34	Fairly even to uneven	Fair	Fair	Fairly even to uneven	—	—
	40	Uneven	Uneven	Fairly even to uneven	Uneven	—	—
Neppiness	20	1 0	1 66	1 0	2 33	—	—
	28	2 66	2 0	2 33	1 66	—	—
	34	1 66	1 0	1 66	1 66	—	—
	40	2 0	1 66	1 0	2 0	—	—
Evenness	20	—	—	—	—	Even	Even
	30	—	—	—	—	Fair	Fair
	40	—	—	—	—	Fair	Fairly even to uneven
Neppiness	20	—	—	—	—	2 0	2 5
	30	—	—	—	—	2 25	2.25
	40	—	—	—	—	2 0	2 75

V REMARKS

This cotton [illegible] the results for samples 6 and 86 is suitable for counts up to about 30's warp yarn spun with moderate twist. The same [illegible] is pointed to by the repeat test on 107/1, but the repeat [illegible] the 10 [illegible] samples 107/2 and 107/3 gave quite different results. From these it would appear that the [illegible] suitable for a 20's warp yarn [illegible] moderate twist. As the cotton is now nearly [illegible] that deterioration had occurred, but the results for 107/1 do not bear out [illegible] tests on two [illegible] have since been made and confirm the [illegible] simple [illegible] seems to be that the original samples [illegible] tests are [illegible] with a view to investigating this [illegible]


PER CENT
LENGTH

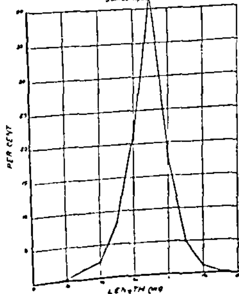

KARUNGANYI 1924-25
PER CENT

TABLE 14—SPINNING TEST RESULTS

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
				Waste Percentages				Spinning Particulars.						
Sample No	Season	Counts Nominal	Weight of Sample	Blow Room Loss	Card Room Loss	Spinning Loss	Total Loss	Card Production per Hour	Ring Frame Production per Spindle per 10 hrs	Ring Frame Yarn Breakages per oz Yarn	Ring Frame Front Roller Speed R P M	Ring Frame Front Roller Diameter Inch	Ring Frame Draft.	Ring Frame turns per Inch
			lbs.					lbs	oz					
6/1	1923-24	20	100	5 6	6 2	0 9	12 2			0 05	168	7/8	3 47	17.58
6/2	"	"	10	4 7	5 8	1 2	11 5			0 18	170	7/8	3 50	17.58
6/3	"	"	5	5 0	7 8	1 5	13 7			0 23	163	7/8	3 68	17 58
6/4	"	"	5	5 9	8 0	1 1	14 4			0	165	7/8	3 92	17 58
6/5	"	"	2	6 1	10 1	1 8	17 0			0 15	166	7/8	3 70	17 58
6/6	"	"	2	6 1	10 9	1 6	17 5	.		0 15	166	7/8	3 70	17 58
6/1	"	28	100							0 09	144	7/8	4 80	21.29
6/2	"	"	10							0 18	140	7/8	4 90	21 29
6/3	"	"	5							0.12	138	7/8	5 26	21 29
6/4	"	"	5							0 12	136	7/8	5 51	21 29
6/5	"	"	2							0	136	7/8	5 32	21.29
6/6	"	"	2							0 15	136	7/8	5 43	21 29
6/1	"	34	100		.	.			.	0 51	127	7/8	5 85	23 79
6/2	"	"	10		.			.	.	0 23	117	7/8	5 83	23 79
6/3	"	"	5	..	..	.		..	..	0 12	119	7/8	6 45	23.79
6/4	"	"	5		.	..	..	..	..	0 35	119	7/8	6 78	23.79
6/5	"	"	2	.	.	.	.	.	..	0	114	7/8	6 29	23.79
6/6	"	"	2	..	.	..		..	..	0	114	7/8	6 54	23 79
6/1	"	43	100	..	..	..		..	..	0 64	108	7/8	6 66	26 97
6/2	"	"	10		..	..	.		..	0 26	102	7/8	7 00	26 97
6/3	"	"	5	.	..	..	.	..	..	0 17	102	7/8	7 63	26 97
6/4	"	"	5	.	.	..	..	..		0	102	7/8	8 06	26 97
6/5	"	"	2	..	.	-		..	..	0 30	105	7/8	7 81	26 97
6/6	"	"	2	. .	..	..	.	..	..	0 30	106	7/8	7.81	26 97

FOR KARUNGANNI C.

16	17	18	19	20	21	22	23	24	25
Yarn Test Results							Temperature	Relative Humidity.	
Counts Actual	Lea Strength Lbs	Single Thread Strength Ozs	Single Thread Irregularity %	Single Thread Weakness Percentage	Turns per Inch Actual	Single Thread Extension %	Spinning Room °F.	Spinning Room %	Testing Room %
19.9	76 3	11 1	6 5	0 8	18 4	5.8	84	71	57
18 6	85 8	11 4	8 0	1 6	18 4	6 2	85	36	63
19.3	83 7	11.4	6 4	2 4	18 0	6.0	85	45	51
20 2	75 1	10 8	12 6	6.0	21.0	5.8	84	43	62
19.1	93 4	11.7	6.7	1.7	17 0	5.6	82	47	67
19 3	88.5	11 4	10.0	2 5	17 6	4.7	81	49	64
27.4	48.9	7.5	16 1	11.2	22 9	5.0	84	71	63
27.3	49.1	7 9	8 0	1.6	21.3	5.2	85	36	59
27.3	49.0	7.9	11.2	3.2	23 7	5.4	85	45	54
27 7	49.4	7 8	14 1	5 2	24 9	5 2	85	43	62
27.1	58 2	7 6	11.7	2.5	24.6	5 0	82	47	65 ,
27.9	50 0	6 9	15 0	7.1	19 9	4 7	81	49	66
34 8	32.3	5 2	13 4	8 8	24.3	3 9	84	71	65
31 5	38 9	7.4	16 8	6 0	24 2	5 1	85	36	59
33 5	34 7	6 2	15 1	6 0	24 9	4 7	85	45	54
32.2	36.6	6 2	15.7	10 8	22 6	4 6	84	43	57
32 8	42 4	5 9	10.6	2.9	25.1	4 6	82	47	64
34 5	34.8	6 0	13 8	5 4	24.7	4 2	81	49	65
39 5	31.2	5 2	12 6	3 6	24.3	4 2	83	70	65
38 9	26 8	5 2	10 8	4 0	26 5	4 2	63	66	56
38 3	29 1	5.1	13 5	5 2	28 0	4 2	85	36	57
38 5	26 0	5 0	12 1	4 8	25 5	4.1	84	43	53
37.2	35.1	5 2	21 4	13.8	28 9	4 2	82	47	65
37 8	33.1	4.8	11.3	3 3	27.3	4 0	81	49	64

TABLE No. 14a—SPINNING TEST RESULTS

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
				WASTE PERCENTAGES				SPINNING PARTICULARS						
Sample No	Season	Counts Nominal	Weight of Sample	Blow Room Loss	Card Room Loss	Spinning Loss	Total Loss	Card Production per Hour	Ring Frame Production per Spindle per 10 hrs	Ring Frame Yarn Breakages per oz Yarn	Ring Frame Front Roller Speed R P M	Ring Frame Front Roller Diameter Inch	Ring Frame Draft	Ring Frame turns per Inch
			lbs					lbs	ozs					
107 1	1923 24	20	100	6 5	6 3	0 8	13 1			0 26	182	7/8	4.08	16 85
107/2	„		10	6 2	8 6	0 6	14 7			0 23	181	7/8	4 26	16 85
107/3			10	6 6	7 9	0 5	14 4			0 17	181	7/8	4 26	16 85
107 1	„	30A	100							0 26	140	7 8	6 09	21 86
107/2			10							0 18	140	7 8	6 45	21 86
107/3	„	„	10							0 13	140	7 8	6 29	21 86
107/1	„	30B	100					11 7	3 54	0 08	132	7/8	6 43	23 11
107 2			10							0 18	132	7 8	6 45	23 11
107/3	„	„	10						„	0 23	132	7 8	6 43	23 11
86 1	1924 25	20	10	5 7	8 7	1 2	14 8			0 15	182	7 8	4 08	16 85
86 2	„	„	10	6 0	8 0	1 [illegible]	14 3	„	„	0 20	182	7 8	4 00	16 85
86 1	„	30A	10	„		„	„	„	„	0 10	140	7 8	6 06	21 86
86 2	„	„	10	„	„		„	„	„	0.15	140	7 8	6 06	21.86
86 1	„	30B	10	„	„	„	„	„	„	0 10	134	7/8	6 21	23 11
86 2	„	„	10	„	„	„	„	„	„	0 15	134	7 8	6 06	23 11

FOR KARUNGANNI C

[illegible]	1[illegible]	18	19	20	21	22	23	24	25
Yarn Test Results							Temperature	Relative Humidity.	
[illegible]ount [illegible]	Lea Strength [illegible]	Single Thread Strength Ozs.	Single Thread Irregularity %	Single Thread Weakness Percentage	Turns per Inch Actual	Single Thread Extension %	Spinning Room °F.	Spinning Room %	Testing Room %
19 [illegible]	74 3	10 5	9 3	1 5	17 9	3 4	83	60	57
19 5	60 7	8 6	12 5	6 0	17 2	4 9	79	64	59
20 0	54 6	8 2	13 6	3 5	17 7	4 6	79	64	60
28 0	46 6	7 4	11 4	3 5	22 4	3 1	83	64	55
29 8	32 0	5 7	12,5	2 0	22 1	3 6	81	63	55
29 6	35 9	6 2	13,8	5 5	20 6	4 2	81	63	59
29.0	47 1	7 8	12 4	5 0	24 4	3 2	87	60	59
29 8	37 1	6 1	14 6	7 0	23 4	3 8	82	66	60
30 0	36,9	6 3	13 9	6 5	23 4	3 6	82	66	55
19 6	78 5	10 2	10 8	3.0	17.2	5.4	87	71	56
19 6	80 4	9 4	11 1	3 0	16 5	5 1	87	71	47
29 0	47.3	6.4	12 5	5 5	19 7	4 5	87	73	50
30 3	41 6	6 4	12 9	4 0	19 6	4.8	87	73	55
29 3	50 5	6 9	12 1	5 0	21.1	4 9	87	74	56
29.1	52 4	7 2	1[illegible] 8	3 5	20 6	5 3	87	74	60

15. REPORT ON UMRI BANI

for Season 1924-25 (Sample No. 82).

I SIZE OF CROP.

Particulars not available

II GRADER'S REPORT

Very poor cotton, irregular and dirty—not representative of the type

III FIBRE PARTICULARS

1 Fibre-Length Distribution (Balls Sorter)—

Mean group-length in eighths of an inch	Percentage
2	0 2
3	1 7
4	3 7
5	9 1
6	20 7
7	37 0
8	21 1
9	5 6
10	0 9

1a	Mean Fibre Length by Balls Sorter (inch)	0 85
2	Mean Fibre Length by Baer Sorter (inch)	0 86
3	Mean Ribbon Width (inch)	00051
4	Mean Convolutions per inch	78

IV SPINNING TESTS

1 *Treatment of Sample* — Lattice Feeder, Crighton Opener, Hopper Scutcher (3 times), Card, Drawing (2heads), Slubber, Inter Rover, spun from a single hank roving on Ring Frame No 1

2 *Spinning Master's Report* —Very leafy indeed and also very badly stained to make a clean yarn would need 20 per cent blow room loss

3 *Spinning Test Results* —See Table 15.

4 *Yarn Examination* —

—	Counts	Season			
		Sample No 82 1	Sample No 82 2	Sample No 82,3	Sample No 82 5
Evenness	20A	Fair	Fairly even to uneven	Uneven	Fairly even to uneven
	20B	Fairly even to uneven	Fairly even to uneven	Uneven	Fair
	20C	Fairly even to uneven	Uneven	Uneven	Uneven
Neppiness	20A	4 0	4 25	4 75	4 5
	20B	4 0	3 75	4 5	4 0
	20C	5 0	5 25	5 5	3 0

V. REMARKS.

Although not regarded by the Grader as typical of Umri Bani cotton, this sample is capable of yielding a fairly good 20's warp yarn when spun with moderate twist, but in spite of the fact that its blow room loss is about 10 per cent the yarn made from it is very dirty The test results of [illegible] turns per inch are anomalous, twist being excessive for 82 1 [illegible] 3 and 82 4.

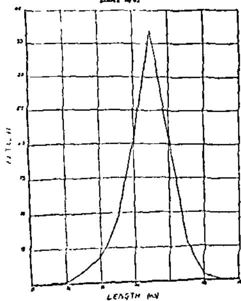

LENGTH (m)

TABLE 15—SPINNING TEST RESULTS

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
				Waste Percentages				Spinning Particulars						
Sample No.	Season	Counts Nominal	Weight of Sample	Blow Room Loss	Card Room Loss	Spinning Loss	Total Loss.	Card Production per Hour	Ring Frame Production per Spindle per 10 hrs	Ring Frame Yarn Breakages per oz Yarn	Ring Frame Front Roller Speed R P M	Ring Frame Front Roller Diameter Inch	Ring Frame Draft	Ring Frame turns per inch
			lbs					lbs	ozs					
62 1	1924 25	20A	100	15 7	9 9	1 5	25 1	12 0	7 87	0 34	182	7/8	5 13	16 85
62 2	"	"	10	15 9	10 7	0 7	25 3			0 45	182	7/8	5 27	16 85
62 3	"	"	5	15 9	12 6	0 8	26 9			0 41	182	7/8	4 88	16 85
62 4	"	"	5	16 1	12 5	0 6	26 9			0 36	182	7/8	5 00	16 85
62 5	"	"	2	16 2	13 6	1 1	30 1			0 27	184	7/8	4 88	16 85
62 6	"	"	2	17 6	18 5	0 8	41 5			0 14	184	7/8	5 12	16 85
62 1	"	20B	100							0 20	170	7/8	5 13	17 98
62 2	"	"	10							0 80	170	7/8	5 13	17 98
62 3	"		5							0 15	172	7/8	4 88	17 98
62 4	"	"	5							0 05	172	7/8	5 00	17 98
62 5			2							0	172	7/8	4 88	17 98
62 6	"	"	2							0	172	7/8	5 12	17 98
62 1	"	20C	100							0 13	155	7/8	5 13	19 05
62 2	"		10							0 24	155	7/8	5 27	19 05
62 3	"		5							0 05	158	7/8	4 88	19 05
62 4	"		5							0 05	158	7/8	5 00	19 05
62 5			2							0 27	159	7/8	4 88	19 05
62 6	"	"	2							0 14	159	7/8	5 12	19 05

FOR UMRI BANI

16	17	18	19	2	21	22	23	24	25
Yarn Test Results							Temperature	Relative Humidity	
Counts Actual	Lea Strength Lbs	Single Thread Strength Ozs	Single Thread Irregularity %	Single Thread Weakness Per centage	Turns per Inch Actual	Single Thread Extension %	Spinning Room °F	Spinning Room %	Testing Room %
19 3	65 2	10 6	17.3	16 5	20 4	5 3	73	71	65
20 1	56 2	8 1	9 6	0 5	18 9	5 0	72	73	45
19 8	56 7	9 2	7 7	6 5	19 5	4 9	71	72	55
19 7	65 2	9 1	14 0	8 5	19 7	4 8	71	72	51
19 7	63 2	9 3	13 3	5 0	16 4	4 3	80	66	60
19 3	68 8	8 7	15 5	8 5	17 9	3 2	80	66	49
19 7	69 6	11.3	13 7	3 5	21 6	5 6	71	72	67
19 5	75 3	11 0	12 2	1 5	20 9	5 3	71	72	51
19 5	77 3	10 4	10 5	0	20 9	5 3	78	61	61
19 5	77 0	10 8	13 1	3 0	20 8	5 4	78	64	50
19 8	71 5	10 2	13 3	7 0	19 3	4 1	80	68	59
19 5	80 8	10 0	11 3	2 5	19 5	3 6	80	66	58
19 9	78.4	11 3	11 4	1 0	23 0	5 6	71	72	53
19 6	82 9	11 6	11 9	4 0	23 1	5 0	71	72	63
19 2	87 4	12 5	8 1	1 0	21 8	5 9	78	61	57
19 4	84 6	11 9	11 1	1 5	22 3	5 5	78	64	45
18 6	88.5	11 1	9 9	1 5	22 2	3 8	60	66	57
18 8	88.7	11 3	9.3	2 0	21 9	3 5	80	66	53

16. REPORT ON MISSISSIPPI AMERICAN & TEXAS AMERICAN for Season 1923 (Sample Nos. 55, 56).

I. SIZE OF CROP.

II. GRADER'S REPORT.

—	Mississippi	Texas
Class	Fully middling	Fully middling.
Colour	White	White
Staple Length	1—17/16 inch	⅞ inch
Staple Strength	Good	Good
Regularity	Regular	Regular

III. FIBRE PARTICULARS

1. Fibre Length Distribution (Ball's Sorter)—

Mean group-length in eighths of an inch	Percentage	
	Mississippi	Texas.
2	0 3	0.2
3	1 0	1 2
4	1 6	3 2
5	3 5	8 9
6	7 7	21 6
7	17 1	38 0
8	27 0	19 5
9	24 9	6 2
10	11 8	1.0
11	4 2	0 2
12	0 9	—

	Mississippi	Texas
2a Mean Fibre Length by Balls Sorter (inch)	1 01	0 85
2b Mean Fibre Length by Baer Sorter (inch)	0 99	0 88
3 Mean Ribbon Width (inch)	00065	00065
4 Mean Convolutions per inch	142	142

IV. SPINNING TESTS

1. *Treatment.*—Normal, i.e. Lattice Feeder, Crighton (twice), Hopper, Scutcher (3 times), Card, Drawing (2 heads), Slubber, Inter, Rover, spun from a single bank roving in Ring Frame No. 1
2. *Spinning Master's Report.*—
3. *Spinning Test Results.*—See Table 16
4. *Yarn Examination.*—

—	Counts	Season				
		Sample No. 55 1	Sample No. 55 2	Sample No. 55 3	Counts	Sample No. 55 1
Evenness	20	Even	Even to fairly even	Fairly even to uneven	20B	Very even to even
	32	Very even to even	Even to fairly even	Fairly even to uneven	30B	Even to fairly even
	40	Very even	Even to fairly even	Uneven	40B	Fairly even to uneven
Neppiness	20	1 75	1 5	1 25	20B	2 0
	32	1 75	1 0	2 0	30B	2 25
	40	2 25	1 0	1 5	40B	1 5
	[illegible]	Sample No. 56 1	Sample No. 56 2	Sample No. 56 3		
Evenness	[illegible]	Even to fairly even	Even	Even to fairly even		
Neppiness	[illegible]	1 25	0 75	1 0		

V. REMARKS

The results of the spinning tests on these cottons were much below what was expected for American cottons [illegible]. This may [illegible] by the fact that the [illegible] was a very bad one for the American crop.

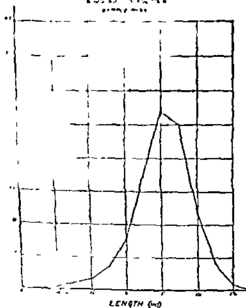


Fig 14a

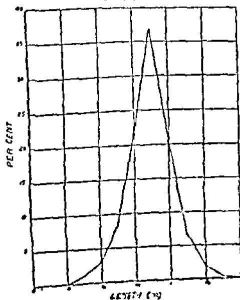


Fig 15b

TABLE 16—SPINNING TEST RESULTS

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
				Waste Percentages.				Spinning Particulars.						
Sample No.	Season	Counts Nominal.	Weight of Sample.	Blow Room Loss	Card Room Loss	Spinning Loss.	Total Loss	Card Production per Hour	Ring Frame Production per Spindle per 10 hrs.	Ring Frame Yarn Breakages per oz Yarn	Ring Frame Front Roller Speed R P M	Ring Frame Front Roller Diameter Inch	Ring Frame Draft	Ring Frame turns per Inch.
			lbs					lbs.	ozs					
55/1	1923	20	100	5 7	7 6	0.9	11 8	..	..	0 16	162	1	4 33	16 85
55/2	..	..	10	4 4	7 1	0.5	11.6		.	0 49	157	1	4 33	16 85
55/3	.	..	10	4 4	7 6	0 4	12 0	..	.	0 37	157	1	4 33	16 85
55 1	..	32	100					.	.	0 16	120	1	7 00	22 84
55/2	..	..	10		.	..		.	.	0 17	116	1	7 00	22 84
55 3	..	..	10		.	.	.	..		0 17	116	1	7 00	22 84
55 1	..	40	100		.	.		..	1 81	0 12	100	1	9 64	27 23
55/2	..	..	10				..	..	..	0 13	98	1	9 00	27 23
55/3	..	..	10					.	.	0	98	1	9 00	27 23
56 1	..	20	100	4 3	7 1	1 3	12 4		7 13	0 25	183	7 8	4 17	16 85
56/2	..	..	10	5 3	9 1	1 2	14 9	..	.	0 19	180	7 8	5 74	16 85
56 3	..	..	10	5 5	8 9	1 4	15 0	..	..	0 18	180	7,8	5 89	16 85

FOR AMERICAN COTTONS

16	17	18	19	20	21	22	23	24	25
Yarn Test Results							Temperature	Relative Humidity.	
Counts Actual	Lea Strength Lbs	Single Thread Strength Ozs	Single Thread Irregularity %	Single Thread Weakness Percentage	Turns per Inch Actual	Single Thread Extension %	Spinning Room °F	Spinning Room %	Testing Room %
19 7	91 9	13 7	6 8	0	18 2	4 3	90	80	81
19 6	93 3	10 0	10 7	2 4	18 2	5 7	88	87	85
19 4	97 2	10 4	12 6	4 8	17.6	5 7	88	87	87
31 0	45 0	7 0	6 2	0	22 4	4 1	90	80	83
30 8	45 8	6 5	9 2	1 6	22 8	4 3	88	87	83
30 5	49 6	6 4	10 5	2 0	22.9	4 1	88	87	87
38 9	32 9	5 5	7 5	0	26 5	4 2	87	76	82
39.4	31 8	4 5	12 8	7 6	26 1	4 2	88	87	87
39 2	32 0	4 9	10 6	3 6	25 7	4 0	87	87	85
19 8	57 2	9 1	14 2	8 0	16 4	4 8	90	80	57
19 8	62 5	8 1	14 5	6 4	16 8	3.7	85	79	53
13 8	60 4	9 1	14 6	9 2	16 7	4 2	90	80	55

TABLE 16—SPINNING TEST RESULTS

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
				Waste Percentages				Spinning Particulars						
Sample No	Season.	Counts Nominal	Weight of Sample	Blow Room Loss	Card Room Loss	Spinning Loss	Total Loss	Card Production per Hour	Ring Frame Production per Spindle per 10 hrs	Ring Frame Yarn Breakages per oz Yarn	Ring Frame Front Roller Speed R P M	Ring Frame Front Roller Diameter Inch	Ring Frame Draft.	Ring Frame turns per Inch
			lbs					lbs	ozs					
55/1	1923	20	100	3 7	7 6	0 9	11 8	.	.	0 16	162	1	4 35	16 85
55/2	,,	,,	10	4 4	7 1	0.5	11 6			0 49	157	1	4 35	16 85
55/3	,,	,,	10	4 4	7 6	0 4	12 0	..		0 37	157	1	4 35	16 85
55/1	,,	32	100							0 16	120	1	7 00	22 84
55/2	,,	,,	10							0 17	116	1	7 00	22 84
55/3	,,	,,	10					.		0 17	116	1	7 00	22 84
55/1	,,	40	100						1 83	0 12	100	1	9 64	27,23
55/2	,,	,,	10						.	0 12	98	1	9 00	27 23
55/3	,,	,,	10						.	0	98	1	9 00	27 23
56/1	,,	20	100	4 3	7.1	1 3	12 4	..	7.13	0 23	183	7/8	4 17	16 85
56/2	,,	,,	10	5 3	9 1	1.2	14 9		..	0 19	180	7/8	5 75	16 85
56,3	,,	,,	10	5 5	8 9	1 4	15 0	..	..	0.19	180	7/8	5 69	16 85

FOR AMERICAN COTTONS

16	17	18	19	20	21	22
Yarn Test Results						
Counts Actual	Lea Strength Lbs	Single Thread Strength Ozs	Single Thread Irregularity %	Single Thread Weakness Percentage	[illegible]	[illegible]
19 7	91 9	13 7	8 8	0	[illegible]	[illegible]
19 6	93 3	10 0	10 7	2 4	[illegible]	[illegible]
19 4	97 2	10 4	12 6	4 8	[illegible]	[illegible]
31 0	45 0	7 0	8 2	0	[illegible]	[illegible]
30 8	45 8	6 5	9 2	1 6	[illegible]	[illegible]
30 5	49 6	6 4	10 5	2 0	[illegible]	[illegible]
38 9	32 9	5 5	7 8	0	[illegible]	[illegible]
39.4	31 8	4 5	12 8	7 6	[illegible]	[illegible]
39 2	32 0	4 9	10 6	3 8	[illegible]	[illegible]
19 8	57 2	9 1	14 2	8 0	[illegible]	[illegible]
19 8	62.5	8 1	14 5	6 4	[illegible]	[illegible]
19 8	60 4	9.1	14.6	9 2	[illegible]	[illegible]

TABLE 17—SUMMARY OF

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
				WASTE PERCENTAGES				SPINNING PARTICULARS (RING FRAME)						
Sample No	Cotton.	Season	Counts Nominal	Blow Room Loss	Card Room Loss	Spinning Loss	Total Loss	—	—	Yarn Breakages per oz Yarn	Front Roller Speed R P M	Front Roller Diameter Inch	Draft	Turns per Inch
62/2	Dharwar No 1	1923 24	20	6 4	7 8	0 7	14 3			0 02	184	7 8	4 54	16 85
72/1	,	1924/25	20	14 6	8 7	0 9	22 5			0 34	183	7,8	4 34	16 85
70/2	Gadag No 1	1923/24	20	4 5	7 1	0 8	12 1			0 25	183	7 8	4 54	16 85
71/2	,,	1924/25	20	8 4	9 1	1 2	17 7			0 27	183	7/8	4 35	16 85
104/2	Surat 1027 A L F	1923,24	20	6 3	7 8	0 6	14 1			0 11	181	7 8	4 08	16 85
63/2	,,	1924 25	20	5 2	7 6	0 4	12 8			0	181	7,8	4 00	16 85
81/2	P A 4F	1924/25	20	7 9	8 2	1 0	16 3			0 11	180	7,8	5 27	16 85
3 2	P A 285F	1923 24	20	11 1	9 1	1 1	20 7			0 09	169	7,8	4 10	17 58
106/2	,,	1923,24	20	10 2	10 5	0 8	20 2			0	182	7,8	4 17	16 85
85A 2	,,	1924/25	20	4 3	9 9	0 6	14 3			0 09	181	7,8	4 26	16 85
85B/2	,	1924/25	20	4 0	10 3	0 2	14 0			0 06	182	7,8	4 19	16 85
80/2	P A 289F	1924/25	20	8 7	9 0	0 4	17 2			0 33	181	7,8	4 75	16 85
77,2	Cawnpore C A 9	1924,25	20	6 9	7 6	0 7	14 5			0 20	184	7 8	4 44	16 85
79/2	Cawnpore K 22 ..	1924/25	10	8 4	7 7	0 4	15 9			0 20	211	7/8	5 41	12 63
78/2	Cawnpore J N 1	1924/25	10	5 7	7 1	0 8	13 1			0 34	192	7 8	5 88	13 58
22/5	Aligarh A 19	1924/25	10	4 6	7 5	1 2	12 8			0 06	190	7 8	5 85	13 58
105/2	Cambodia (Co 1)	1923,24	20	4 4	6 3	0 6	11 0			0 15	181	7/8	4 28	16 85
84/1	,,	1924/25	20	4 6	7 4	0 5	12 1			0 05	180	7/8	4 27	16 85
73 2	Nandyal 14	1923 24	20	5 8	7 5	0 9	13 7			0 17	182	7/8	4,35	16 85
74 2	,, .	1924/25	20	8 3	8 2	0 5	16 4		..	0 20	180	7/8	4,23	16 85
75/2	Hagari 25	1923/24	20	9 8	8 1	0 9	17 8			0 28	183	7/8	4 35	16 85
76 2	,,	1924,25	20	4 9	7 2	0 4	12 0		.	0 22	183	7/8	4 44	16 85
107/2	Karunganni	1923 24	20	6 2	8 6	0 6	14 7	.	.	0 23	181	7/8	4 26	16 85
86/1	,,	1924/25	20	5 7	8 7	1 2	14 8			0 15	182	7 8	4 08	16 85
82 2	Umri Bani ..	1924/25	20	15 9	10 7	0 7	25 3			0 45	182	7/8	5 27	16 85
55 2	Mississippi .	1923	20	4 4	7 1	0 5	11 6			0.49	157	1	4 35	16 85
56 2	Texas .	1923	20	5 3	9 1	1.2	14 9			0 19	180	7/8	5 75	16 85

SPINNING TEST RESULTS

Count Actual	Lea Strength (%)	Single Thread Strength	Single Thread Irregularity	Single Thread Weakness Percentage	Turns per Inch Actual	Single Thread Extension %	Temperature: Spinning Room °F	Relative Humidity: Spinning Room %	Relative Humidity: Testing Room %
19.2	102.[illegible]	10.8	9.2	2.0	19.3	4.4	87	79	62
18.9	101.6	14.0	7.5	0	15.9	4.5	63	79	65
19.8	68.2	10.3	9.3	2.4	18.6	3.7	81	77	59
19.4	58.1	9.6	7.0	0	15.2	4.9	83	76	67
19.6	82.3	10.9	8.6	0	17.7	5.7	66	70	52
19.3	96.0	10.9	9.6	1.0	20.6	5.0	86	70	64
18.8	72.2	9.0	13.1	4.5	20.0	4.7	73	75	62
20.6	89.7	11.2	5.9	0	21.3	6.0	75	45	48
19.1	100.1	12.4	9.1	1.5	17.6	6.4	84	69	55
18.9	97.4	12.6	9.1	1.0	17.2	5.0	85	66	58
19.2	93.2	11.9	8.4	0.5	16.4	5.7	86	70	58
19.7	89.9	12.1	7.4	2.5	21.0	6.5	74	72	61
19.2	81.5	12.0	9.7	2.0	22.4	4.0	82	76	45
9.5	117.4	20.6	13.4	6.0	13.3	7.5	76	71	51
10.2	122.2	19.8	9.0	0	13.6	6.3	80	77	54
9.4	66.7	15.7	16.8	12.4	13.9	5.4	91	66	75
19.9	78.9	10.5	9.8	2.0	16.7	4.6	86	72	47
20.0	84.4	12.0	8.0	0	19.0	6.7	67	74	61
19.2	93.3	13.0	12.5	4.8	19.1	5.6	64	73	56
18.6	97.5	10.9	10.3	6.0	16.7	4.4	63	62	57
19.2	73.4	12.0	9.2	0.5	18.3	4.4	62	62	55
19.9	82.0	10.8	8.5	0.5	17.4	5.0	60	72	62
19.5	60.7	8.6	12.5	6.0	17.2	4.9	79	64	59
19.6	78.6	10.2	10.6	3.0	17.2	5.4	67	71	56
20.1	58.2	8.1	9.6	0.5	18.9	5.0	72	73	45
19.6	95.3	10.0	10.7	2.4	15.2	5.7	65	87	85
19.5	62.5	8.1	14.5	6.4	16.6	3.7	65	79	[illegible]